



## UNIVERSITY OF CALCUTTA

### Notification No. CSR/ 24 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 13.07.2018 (vide Item No.18) approved the corrected version of the Bengali (Honours / General / LCC2 / AECC1) syllabus replacing the existing Bengali (Honours / General / LCC2 / AECC1) syllabus (as notified in Notification No.CSR/ 12/18 dated 04.06.2018) , laid down in the accompanying pamphlet.

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE

KOLKATA-700073

The 6<sup>th</sup> August, 2018

  
(Debabrata Manna)

Deputy Registrar (Acting)

# কলিকাতা বিশ্ববিদ্যালয়

২০১৮

## স্নাতক বাংলা পাঠক্রম সাম্মানিক সাধারণ ও AECC-1

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

# কলিকাতা বিশ্ববিদ্যালয়

## ২০১৮

স্নাতক বাংলা পাঠ্যক্রম  
সাম্মানিক

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

## স্নাতক সাম্মানিক বাংলা— 140 (114 + 26) Credits

### A) Discipline Centric Core Course (CC)–6 Credit Each

BNG-A-CC-1-1-Th-Tu	বাংলা সাহিত্যের ইতিহাস (১৮০০ খ্রিঃ পর্যন্ত)
BNG-A-CC-1-2-Th-Tu	বর্ণনামূলক ভাষাবিজ্ঞান ও বাংলা ভাষা
BNG-A-CC-2-3-Th-Tu	বাংলা সাহিত্যের ইতিহাস (উনিশ শতক)
BNG-A-CC-2-4-Th-Tu	বাংলা সাহিত্য : প্রবেশক পাঠ
BNG-A-CC-3-5-Th-Tu	বাংলা সাহিত্যের ইতিহাস (বিশ শতক)
BNG-A-CC-3-6-Th-Tu	ঐতিহাসিক ভাষাবিজ্ঞান
BNG-A-CC-3-7-Th-Tu	কথাসাহিত্য
BNG-A-CC-4-8-Th-Tu	প্রাগাধুনিক সাহিত্য
BNG-A-CC-4-9-Th-Tu	ছন্দ, অলঙ্কার ও কাব্যতত্ত্ব
BNG-A-CC-4-10-Th-Tu	প্রবন্ধ ও বিবিধ রচনা
BNG-A-CC-5-11-Th-Tu	সাহিত্যের রূপ ও রীতি
BNG-A-CC-5-12-Th-Tu	নাটক ও নাট্যমঞ্চ
BNG-A-CC-6-13-Th-Tu	আধুনিক বাংলা কাব্য-কবিতা
BNG-A-CC-6-14-Th-Tu	সংস্কৃত, ইংরেজি ও প্রতিবেশী (হিন্দী) সাহিত্যের ইতিহাস

### B) Discipline Specific Elective (DSE)– 6 Credits Each

BNG-A-DSE-A-5-1-Th-Tu	বাংলার সমাজ ও সংস্কৃতির ইতিহাস
BNG-A-DSE-A-5-2-Th-Tu	বাংলাদেশের সাহিত্য
BNG-A-DSE-A-6-3-Th-Tu	বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি
BNG-A-DSE-A-6-4-Th-Tu	তুলনামূলক সাহিত্য
BNG-A-DSE-B-5-1-Th-Tu	বাংলা শিশু-কিশোর সাহিত্য
BNG-A-DSE-B-5-2-Th-Tu	দেশভাগ ও বাংলা সাহিত্য
BNG-A-DSE-B-6-3-Th-Tu	চরিত সাহিত্য, আত্মচরিত ও ভ্রমণ সাহিত্য
BNG-A-DSE-B-6-4-Th-Tu	লোকসংস্কৃতি ও লোকসাহিত্য

### C) Skill Enhancement Course (SEC)–2 Credit Each

BNG-A-SEC-A-3-1-Th	মুদ্রণ ও প্রকাশনা
BNG-A-SEC-A-3-2-Th	ব্যবহারিক বাংলা-১
BNG-A-SEC-B-4-1-Th	ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান
BNG-A-SEC-B-4-2-Th	ব্যবহারিক বাংলা-২

### D) Ability Enhancement Compulsory Course (AECC)–2 Credits

BNG-AECC-1-1Th	
----------------	--



**স্নাতক বাংলা (সাম্মানিক) পাঠক্রমের সেমেস্টার ভিত্তিক বিভাজন**

	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6
<b>A) Core Course</b> 6 Credits each (5TH + 1TU)	<ul style="list-style-type: none"> <li>● BNG-A-CC-1-1-TH-TU</li> <li>● BNG-A-CC-1-2-TH-TU</li> </ul>	<ul style="list-style-type: none"> <li>● BNG-A-CC-2-3-TH-TU</li> <li>● BNG-A-CC-2-4-TH-TU</li> </ul>	<ul style="list-style-type: none"> <li>● BNG-A-CC-3-5-TH-TU</li> <li>● BNG-A-CC-3-6-TH-TU</li> <li>● BNG-A-CC-3-7-TH-TU</li> </ul>	<ul style="list-style-type: none"> <li>● BNG-A-CC-4-8-TH-TU</li> <li>● BNG-A-CC-4-9-TH-TU</li> <li>● BNG-A-CC-4-10-TH-TU</li> </ul>	<ul style="list-style-type: none"> <li>● BNG-A-CC-5-11-TH-TU</li> <li>● BNG-A-CC-5-12-TH-TU</li> </ul>	<ul style="list-style-type: none"> <li>● BNG-A-CC-6-13-TH-TU</li> <li>● BNG-A-CC-6-14-TH-TU</li> </ul>
<b>B) Elective Courses</b> 6 Credits each (5TH + 1TU)						
<b>i) Generic Elective (GE)</b>	☒	☒	☒	☒		
<b>ii) Discipline Specific Elective (DSE)</b>					DSE-A- বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স 1 ও 2) থেকে একটি এবং DSE-B- বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স 1 ও 2) থেকে একটি নিয়ে মোট দুটি কোর্স নির্বাচন করতে হবে।	DSE-A- বর্গের শেষ দুটি কোর্স (অর্থাৎ কোর্স 3 ও 4) থেকে একটি এবং DSE-B- বর্গের শেষ দুটি কোর্স (অর্থাৎ কোর্স 3 ও 4) থেকে একটি নিয়ে মোট দুটি কোর্স নির্বাচন করতে হবে।
<b>C) Skill Enhancement Course (SEC)</b> 2 Credits Each (2TH)			যে-কোনো একটি <ul style="list-style-type: none"> <li>● BNG-A-SEC-A-3-1-TH</li> <li>● BNG-A-SEC-A-3-2-TH</li> </ul>	যে-কোনো একটি <ul style="list-style-type: none"> <li>● BNG-A-SEC-B-4-1-TH</li> <li>● BNG-A-SEC-B-4-2-TH</li> </ul>		
<b>D) Ability Enhancement Compulsory Course (AECC)</b> 2 Credits (2TH)	<ul style="list-style-type: none"> <li>● BNG-AECC-1-1-TH</li> </ul>	☒				
<b>Total Marks/ Credits</b>	400/20	400/20	500/26	500/26	400/24	400/24

**Note :** বাংলা ছাড়া পাঠ্য অন্য কোর্স বোঝাতে ☒ চিহ্নটি ব্যবহার করা হয়েছে।

# Discipline Centric Core Course (CC)

## (সাম্মানিক বাংলা)

- স্নাতক সাম্মানিক বাংলা পাঠ্যক্রমে 'Discipline Centric Core Course' স্তরে ৮৪ ক্রেডিট-এর মোট ১৪টি কোর্স ছয় (৬)টি সেমেস্টারে পড়তে হবে।
- ৬ (৫ + ১) ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট CC-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য বরাদ্দ। ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য এবং ১৫ নম্বর কোর্সভিত্তিক টিউটোরিয়াল-এর জন্য বরাদ্দ। বাকি ৬৫ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে। প্রতিটি সেমেস্টারে পনেরো সপ্তাহ করে ক্লাস হবে ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- ৬৫ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৪টি বোধমূলক এবং ১ নম্বরের ১৫টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে।

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	মডিউল-১ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৫	মডিউল-২ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৬	মডিউল-৩ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৭	মডিউল-১, মডিউল-২ এবং মডিউল-৩ থেকে একটি করে প্রসঙ্গ/বিষয় নিয়ে টীকা-ধর্মী প্রশ্ন হবে। তিনটির মধ্যে যে-কোনো একটি লিখতে হবে।	৫
৮	প্রত্যেকটি মডিউল থেকে কমপক্ষে <u>তিনটি</u> করে প্রশ্ন নিয়ে মোট <u>পনেরটি</u> সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ১৫

## BNG-A-CC-1-1-TH-TU

### বাংলা সাহিত্যের ইতিহাস (১৮০০ খ্রিঃ পর্যন্ত)

**উদ্দেশ্য :** বাংলা ভাষা ও সাহিত্যের উদ্ভবের সময়কাল থেকে ১৮০০ খ্রিস্টাব্দ পর্যন্ত বাংলা সাহিত্যের বিভিন্ন ধারার সঙ্গে শিক্ষার্থীদের পরিচিতি ঘটানো এই পাঠের উদ্দেশ্য।

#### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
বাংলা ভাষা ও সাহিত্যের ইতিহাস সম্পর্কিত সাধারণ ধারণা	২৩	৬	১
বাংলা সাহিত্যের যুগবিভাগ— প্রসঙ্গ ও বিতর্ক			
বাংলা ভাষা ও সাহিত্যের আদি পর্বের গতিপ্রকৃতি ও নিদর্শন সমূহ			
চর্যাপদ			
শ্রীকৃষ্ণকীর্তন			

#### মডিউল -২

অনুবাদ সাহিত্য-ভাগবত, রামায়ণ ও মহাভারত	২৩	৬	১
বৈষ্ণব পদাবলী— বিদ্যাপতি, চণ্ডীদাস, জ্ঞানদাস, গোবিন্দদাস			
চৈতন্য-চরিত সাহিত্য— চৈতন্যভাগবত, শ্রীচৈতন্যচরিতামৃত			

### মডিউল-৩

মঙ্গলকাব্যের উদ্ভব ও বিকাশ	২৩	৬	১
মনসামঙ্গল, ধর্মমঙ্গল, চণ্ডীমঙ্গল ও অন্নদামঙ্গল			
প্রণয়োপাখ্যান— শাহ মহম্মদ সগীর, দৌলত কাজী ও আলাওল			
শাক্ত পদাবলী— রামপ্রসাদ সেন ও কমলাকান্ত ভট্টাচার্য			

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙালা সাহিত্যের ইতিহাস (১-২)— সুকুমার সেন
- ☐ বাংলা সাহিত্যের রূপরেখা (১-২)— গোপাল হালদার
- ☐ বাংলা সাহিত্যের ইতিবৃত্ত (১-৫)— অসিতকুমার বন্দ্যোপাধ্যায়
- ☐ বাংলা সাহিত্যের ইতিকথা (১-২)— ভূদেব চৌধুরী
- ☐ বাঙালি জাতি ও বাংলা সাহিত্য (১-২)— আহমেদ শরীফ
- ☐ মধ্যযুগের বাংলা সাহিত্যের তথ্য ও কালক্রম — সুখময় মুখোপাধ্যায়
- ☐ বাংলা মঙ্গলকাব্যের ইতিহাস— আশুতোষ ভট্টাচার্য
- ☐ বাংলা সাহিত্যের ইতিহাস (আদি ও মধ্যযুগ)— দেবেশকুমার আচার্য

## BNG-A-CC-1-2-TH-TU

### বর্ণনামূলক ভাষাবিজ্ঞান ও বাংলাভাষা

**উদ্দেশ্য :** সাহিত্যের সাম্মানিক পর্যায়ের ছাত্র হিসেবে বাংলা ভাষাতত্ত্ব ও শব্দতত্ত্ব সম্পর্কে ধারণা থাকা অত্যন্ত গুরুত্বপূর্ণ। সেই লক্ষ্যপূরণে এই কোর্সটি তৈরি করা হয়েছে।

### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
ধ্বনি, বর্ণ, অক্ষর— সংজ্ঞার্থ ও পারস্পরিক সম্পর্ক	২৩	৬	১
উচ্চারণস্থান ও উচ্চারণপ্রকৃতি অনুযায়ী বাংলা স্বর ও ব্যঞ্জনধ্বনিগুলির পরিচয়			
মৌলিক স্বরধ্বনি ও স্বনিমের ধারণা			
বাংলা ভাষার শব্দ ভাণ্ডার			

### মডিউল-২

শব্দ বিবর্তন, বাংলা ভাষার ধ্বনি পরিবর্তনের রীতি ও প্রকৃতি	২৩	৬	১
বাংলা শব্দার্থ পরিবর্তনের ধারা, বাংলা ভাষার উপভাষা			

### মডিউল-৩

বাংলা ভাষার রূপতাত্ত্বিক আলোচনা— বচন, লিঙ্গ, পুরুষ, সমাস, বিভক্তি, কারক, প্রত্যয়, ক্রিয়ার কাল ও অব্যয়	২৩	৬	১
--	----	---	---

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সাধারণ ভাষাবিজ্ঞান ও বাঙালা ভাষা— রামেশ্বর শ'
- ☐ ভাষার ইতিবৃত্ত— সুকুমার সেন
- ☐ ভাষাবিদ্যা পরিচয়— পরেশচন্দ্র ভট্টাচার্য
- ☐ বাংলা ভাষা পরিক্রমা (১-২)— পরেশচন্দ্র মজুমদার
- ☐ উপভাষা চর্চার ভূমিকা— মণিরুজ্জামান
- ☐ ভাষাতত্ত্ব অনুশীলন— মণিরুজ্জামান
- ☐ বাংলা ভাষার ব্যাকরণ ও তার ক্রমবিকাশ— নির্মল দাশ

## BNG-A-CC-2-3-TH-TU

### বাংলা সাহিত্যের ইতিহাস (উনিশ শতক)

**উদ্দেশ্য :** ঔপনিবেশিক আধুনিকতার সংস্পর্শে এসে আমাদের চিন্তা-চেতনা, জীবনমান ও সাহিত্যে যে আধুনিকতার সঞ্চার ঘটেছিল তার সঙ্গে শিক্ষার্থীদের পরিচিত করানোই এই কোর্সের উদ্দেশ্য।

#### মডিউল-১ : কাব্য-কবিতা ও নাটক-প্রহসন

		Class Hours		
		Th	Tu	IA Exam
ক.	বাংলা কাব্যে আধুনিকতার সঞ্চার— প্রেক্ষাপট ও স্বরূপ	১৩	৬	১
	ঈশ্বরচন্দ্র গুপ্ত, রঙ্গলাল বন্দ্যোপাধ্যায়			
	মধুসূদন দত্ত, হেমচন্দ্র বন্দ্যোপাধ্যায়, নবীনচন্দ্র সেন			
	বিহারীলাল চক্রবর্তী, রবীন্দ্রনাথ ঠাকুর, গিরীন্দ্রমোহিনী দাসী			
খ.	আধুনিক বাংলা নাটকের উদ্ভব ও বিকাশ	১০		
	মধুসূদন দত্ত, দীনবন্ধু মিত্র			
	অমৃতলাল বসু, গিরিশচন্দ্র ঘোষ, রবীন্দ্রনাথ ঠাকুর			

#### মডিউল-২ : কথাসাহিত্য ও সাময়িক পত্র

ক.	নকশা-কথাগদ্য থেকে উপন্যাস— বাংলা উপন্যাসের উদ্ভব ও বিকাশ	১৩	৬	১
	ভবানীচরণ বন্দ্যোপাধ্যায়, প্যারীচাঁদ মিত্র, কালীপ্রসন্ন সিংহ			
	বঙ্কিমচন্দ্র চট্টোপাধ্যায়, তারকনাথ গঙ্গোপাধ্যায়			
	রমেশচন্দ্র দত্ত, স্বর্ণকুমারী দেবী			
	বাংলা ছোটগল্পের উদ্ভবের প্রেক্ষাপট ও রবীন্দ্রনাথ			
খ.	বাংলা সাময়িক পত্রের উদ্ভব ও বিকাশ	১০		
	সংবাদ প্রভাকর, তত্ত্ববোধিনী পত্রিকা, বিবিধার্থ সংগ্রহ, মাসিক পত্রিকা, সোমপ্রকাশ, বঙ্গদর্শন, ভারতী			

#### মডিউল-৩ : গদ্য ও প্রবন্ধ

বাংলা সাহিত্যে গদ্য রীতি গৃহীত হওয়ার পটভূমি	২৩	৬	১
বাংলা গদ্যের চর্চা ও বিকাশে শ্রীরামপুর মিশন ও ফোর্ট উইলিয়াম কলেজের ভূমিকা			
বাংলা গদ্যের বিকাশে বিভিন্ন সাময়িক পত্রের অবদান			
বাংলা গদ্য ও প্রবন্ধ সাহিত্যের বিকাশে রামমোহন রায়, ঈশ্বরচন্দ্র বিদ্যাসাগর, অক্ষয়কুমার দত্ত, প্যারীচাঁদ মিত্র, কালীপ্রসন্ন সিংহ, বঙ্কিমচন্দ্র চট্টোপাধ্যায়, মীর মশাররফ হোসেন ও বিবেকানন্দের অবদান			

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙালা সাহিত্যের ইতিহাস (৩-৪ খণ্ড)— সুকুমার সেন
- ☐ বাংলা গদ্য সাহিত্যের ইতিহাস— সজনীকান্ত দাস
- ☐ বাংলা সাহিত্যে গদ্য— সুকুমার সেন
- ☐ বাংলা সাহিত্যের ইতিবৃত্ত (৬-৮)— অসিতকুমার বন্দ্যোপাধ্যায়
- ☐ বাংলা সাহিত্যের ইতিকথা (৩-৪)— ভূদেব চৌধুরী
- ☐ আধুনিক বাংলা কাব্য— তারাপদ মুখোপাধ্যায়
- ☐ উনিশ শতকের গীতিকাব্য— অরুণকুমার মুখোপাধ্যায়

- ❑ বাংলা সাময়িক পত্রের ইতিবৃত্ত (১ম খণ্ড)— সন্দীপ দত্ত
- ❑ Bengali Literature in the Nineteenth Century— Sushil Kr. De
- ❑ বাংলা সাময়িক পত্র— ব্রজেন্দ্রলাল বন্দ্যোপাধ্যায়
- ❑ বাংলা নাটকের ইতিহাস— অজিতকুমার ঘোষ
- ❑ গদ্যরীতি পদ্যরীতি— পবিত্র সরকার

## BNG-A-CC-2-4-TH-TU

### বাংলা সাহিত্য : প্রবেশক পাঠ

**উদ্দেশ্য :** বাংলা ভাষা ও সাহিত্যের ইতিহাস সম্পর্কে প্রাথমিক জ্ঞানার্জনের পর এখানে শিক্ষার্থীরা সাহিত্যের রসাস্বাদনের সুযোগ পাবে। সাহিত্যের পাঠকে যতটা সম্ভব আনন্দদায়ক করে তোলাই এক্ষেত্রে লক্ষ্য।

#### মডিউল-১ : কবিতা

	Class Hours		
	Th	Tu	IA Exam
লুই পা— চর্যাপদ-১ বড়ু চণ্ডীদাস— কে না বাঁশী বাএ বড়ায়ি কালিনী নই কুলে বিদ্যাপতি— এ সখি হামারি দুখের নাহি ওর চণ্ডীদাস— সেই কেবা শুনাইল জ্ঞানদাস— সুখের লাগিয়া এ ঘর বাঁধিনু রামপ্রসাদ সেন— মা নিম খাওয়ালে চিনি বলে লালন ফকির— সব লোকে কয় লালন কি জাত মধুসূদন দত্ত— হে বঙ্গা ভাঙারে তব রবীন্দ্রনাথ ঠাকুর— বলাকা কাজী নজরুল ইসলাম— কাঙারী হুঁশিয়ার জীবনানন্দ দাশ— সুচেতনা নীরেন্দ্রনাথ চক্রবর্তী— দেশ দেখাচ্ছ অন্ধকারে শামসুর রাহমান— আমার ভালবাসা শঙ্খ ঘোষ— বাবরের প্রার্থনা শক্তি চট্টোপাধ্যায়— অবনী বাড়ি আছে জয় গোস্বামী— রয় যে কাঙাল শূন্য হাতে	২৩	৬	১

#### মডিউল ২ : কথাসাহিত্য

ক	বঙ্কিমচন্দ্র চট্টোপাধ্যায়— কপালকুণ্ডলা	১৫	৬	১
খ	শরৎচন্দ্র চট্টোপাধ্যায়— অভাগীর স্বর্গ পরশুরাম— লম্বকর্ণ সতীনাথ ভাদুড়ী— চরণদাস এম. এল. এ সমরেশ বসু— আদাব	৮		

মডিউল-৩ : নাটক ও গদ্য প্রবন্ধ

ক	দীনবন্ধু মিত্র — নীলদর্পণ	১৩		
খ	রবীন্দ্রনাথ ঠাকুর — বাজেকথা	১০	৬	১
	প্রমথ চৌধুরী — বইপড়া			
	অবনীন্দ্রনাথ ঠাকুর — সৌন্দর্যের সন্ধান			
	সোফিয়া খাতুন — ঊনবিংশ শতাব্দীর নারীবিপ্লব			

সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ চর্যাগীতি পরিক্রমা — নির্মল দাশ
- ☐ শ্রীকৃষ্ণকীর্তন — অমিত্রসুন্দর ভট্টাচার্য (সম্পাদিত)
- ☐ মধ্যযুগের কবি ও কাব্য — শঙ্করীপ্রসাদ বসু
- ☐ রবিরশ্মি — চারুচন্দ্র ভট্টাচার্য
- ☐ বঙ্গ সাহিত্যে উপন্যাসের ধারা — শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ বাংলা উপন্যাসের ইতিহাস — ক্ষেত্র গুপ্ত
- ☐ বঙ্কিমচন্দ্র — সুবোধচন্দ্র সেনগুপ্ত
- ☐ বঙ্কিম সরণী — প্রথমনাথ বিশী
- ☐ বাংলা উপন্যাসের কালান্তর — সরোজ বন্দ্যোপাধ্যায়
- ☐ সাহিত্যে ছোটগল্প — নারায়ণ গঙ্গোপাধ্যায়
- ☐ বাংলা সাহিত্যের ছোটগল্প ও গল্পকার — ভূদেব চৌধুরী
- ☐ কালের পুণ্ডলিকা — অরুণকুমার মুখোপাধ্যায়
- ☐ একালের গদ্য-পদ্য আন্দোলনের দলিল — সত্য গুহ
- ☐ বাংলা ছোটগল্প : প্রসঙ্গ ও প্রকরণ — বীরেন্দ্র দত্ত
- ☐ বাংলা গদ্যরীতির ইতিহাস — অরুণকুমার মুখোপাধ্যায়
- ☐ বাংলা সাহিত্যে নবযুগ — শশিভূষণ দাশগুপ্ত
- ☐ আধুনিক বাংলা সাহিত্য — মোহিতলাল মজুমদার
- ☐ বঙ্কিমচন্দ্রের উপন্যাস : শিল্পরীতি — ক্ষেত্র গুপ্ত।

## BNG-A-CC-3-5-TH-TU

### বাংলা সাহিত্যের ইতিহাস (বিংশ শতক)

উদ্দেশ্য : এই কোর্সের মাধ্যমে বিশ শতকের বাংলা সাহিত্যের গতিপ্রকৃতি এবং স্বরূপ সম্পর্কে জ্ঞানার্জন করবে পড়ুয়ারা।

#### মডিউল-১ : কাব্য-কবিতা ও নাটক

		Class Hours		
		Th	Tu	IA Exam
ক.	রবীন্দ্রনাথ ঠাকুর	১৫	৩	১
	সত্যেন্দ্রনাথ দত্ত, যতীন্দ্রনাথ সেনগুপ্ত, মোহিতলাল মজুমদার, কাজী নজরুল ইসলাম			
	জীবনানন্দ দাশ, সুধীন্দ্রনাথ দত্ত, বুদ্ধদেব বসু, বিষ্ণু দে			
	সমর সেন, সুভাষ মুখোপাধ্যায়, সুকান্ত ভট্টাচার্য, বীরেন্দ্র চট্টোপাধ্যায়,			
	সুনীল গঙ্গোপাধ্যায়, শক্তি চট্টোপাধ্যায়, কবিতা সিংহ			
খ.	রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায়	৮	৩	
	বিজন ভট্টাচার্য, তুলসী লাহিড়ী			
	মন্মথ রায়, উৎপল দত্ত, বাদল সরকার			

#### মডিউল-২ : কথাসাহিত্য

রবীন্দ্রনাথ ঠাকুর	২৩	৬	১
শরৎচন্দ্র চট্টোপাধ্যায় (ঔপন্যাসিক)			
জগদীশ গুপ্ত (গল্পকার), পরশুরাম (গল্পকার)			
প্রেমেন্দ্র মিত্র (গল্পকার), মানিক বন্দ্যোপাধ্যায়			
বিভূতিভূষণ বন্দ্যোপাধ্যায়, তারাশঙ্কর বন্দ্যোপাধ্যায়			
সতীনাথ ভাদুড়ী, সুবোধ ঘোষ (গল্পকার)			
সোমেন চন্দ (গল্পকার), সমরেশ বসু (গল্পকার)			
আশাপূর্ণা দেবী, সৈয়দ ওয়ালিউল্লাহ			

#### মডিউল-৩ : গদ্য-প্রবন্ধ ও সাময়িকপত্র

ক.	রবীন্দ্রনাথ ঠাকুর	১৩	৩	১
	রামেন্দ্রসুন্দর ত্রিবেদী			
	প্রমথ চৌধুরী			
	মোহিতলাল মজুমদার			
	বুদ্ধদেব বসু			
	গোপাল হালদার			
	সৈয়দ মুজতবা আলী			
খ.	ভারতী, সবুজপত্র, নারায়ণ	১০	৩	
	কল্লোল, কালিকলম, প্রগতি			
	প্রবাসী, ভারতবর্ষ, শনিবারের চিঠি			
	পরিচয়, কবিতা, কুন্ডিলাস,			

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙালা সাহিত্যের ইতিহাস (৫ম খণ্ড)— সুকুমার সেন
- ☐ বাংলা সাহিত্যের ইতিকথা (৩-৪)— ভূদেব চৌধুরী
- ☐ রবীন্দ্রানুসারী কবিসমাজ— অরুণকুমার মুখোপাধ্যায়
- ☐ আমার কালের কয়েকজন কবি— জগদীশ ভট্টাচার্য
- ☐ রবীন্দ্রনাট্য পরিক্রমা— উপেন্দ্রনাথ ভট্টাচার্য
- ☐ রবীন্দ্রনাট্য প্রবাহ— প্রমথনাথ বিশী
- ☐ বাংলা নাটকের ইতিহাস— অজিতকুমার ঘোষ
- ☐ বঙ্গসাহিত্যে উপন্যাসের ধারা— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ আধুনিকতা ও রবীন্দ্রনাথ— আবু সয়ীদ আইয়ুব
- ☐ সাহিত্য টীকা— সনৎকুমার মিত্র
- ☐ বাংলা সাময়িকপত্রের ইতিবৃত্ত (২য় খণ্ড) সন্দীপ দত্ত
- ☐ বাংলা প্রবন্ধ সাহিত্যের ধারা (১, ২ খণ্ড)— অধীর দে
- ☐ কল্লোলের কাল— জীবেন্দ্র সিংহ রায়

## BNG-A-CC-3-6-TH-TU

### ঐতিহাসিক ভাষাবিজ্ঞান

**উদ্দেশ্য :** প্রাচীন ভারতীয় আর্যভাষা থেকে আধুনিক ভারতীয় আর্যভাষা হিসেবে বাংলা ভাষার উদ্ভব ও বিকাশের প্রতিটি পর্যায়ের সাহিত্যিক নিদর্শনের সহায়তায় সেই সেই পর্যায়ের ভাষাগত বৈশিষ্ট্য সম্পর্কে শিক্ষার্থীদের ধারণা দেওয়া।

#### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
ভাষা, ভাষাপরিবার	২৩	৬	১
প্রাচীন ভারতীয় আর্যভাষা থেকে আধুনিক ভারতীয় আর্যভাষা হিসেবে বাংলা ভাষার উদ্ভবের গতিরেখা			

#### মডিউল-২

প্রাচীন বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষণ—প্রেক্ষিত চর্যাপদ	২৩	৬	১
আদি-মধ্য বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষণ— প্রেক্ষিত শ্রীকৃষ্ণকীর্তন			

#### মডিউল -৩

অন্ত-মধ্য বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষণ— প্রেক্ষিত অন্তদামঙ্গল	২৩	৬	১
আধুনিক বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষণ— প্রেক্ষিত পরিব্রাজক (স্বামী বিবেকানন্দ)			

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ ভাষা-প্রকাশ বাঙালা ব্যাকরণ— সুনীতিকুমার চট্টোপাধ্যায়
- ☐ সংস্কৃত ও প্রাকৃত ভাষার ক্রমবিকাশ (১-২ খণ্ড)— পরেশচন্দ্র মজুমদার
- ☐ বাংলা ভাষা পরিক্রমা— পরেশচন্দ্র মজুমদার
- ☐ ভাষা-জিজ্ঞাসা— শিশিরকুমার দাশ
- ☐ ভাষার ইতিবৃত্ত— সুকুমার সেন
- ☐ সাধারণ ভাষাবিজ্ঞান ও বাংলা ভাষা— রামেশ্বর শ’
- ☐ আধুনিক ভাষাতত্ত্ব— আবদুল কালাম মন্জুর মোরশেদ
- ☐ বাঙালা ভাষার ইতিবৃত্ত— মুহম্মদ শহীদুল্লাহ
- ☐ বাংলা ভাষা— পার্বতীচরণ ভট্টাচার্য



# BNG-A-CC-3-7-TH-TU

## কথাসাহিত্য

**উদ্দেশ্য :** তৃতীয় সেমেস্টারে বাংলা সাহিত্যের আধুনিক পর্যায়ের ইতিহাস এবং ভাষাবিজ্ঞান বিষয়ে জ্ঞানার্জনের পাশাপাশি শিক্ষার্থীরা এই কোর্সটি পড়বে। আধুনিক সময়ের জটিলতা, ব্যক্তি ও সমষ্টির দ্বন্দ্ব, বাঙালির পারিবারিক জীবনে নারীর অবস্থান, পরিবেশ সম্পর্কিত ভাবনা এবং মানুষের লড়াই-সংগ্রামের নানা প্রবণতাকে পড়ুয়াদের চেনানোর চেষ্টা করা হবে এই কোর্সের মাধ্যমে।

### মডিউল-১ : উপন্যাস (যে-কোনো একটি)

	Class Hours		
	Th	Tu	IA Exam
যোগাযোগ— রবীন্দ্রনাথ ঠাকুর দেনাপাওনা— শরৎচন্দ্র চট্টোপাধ্যায়	২৩	৬	১

### মডিউল -২ : উপন্যাস (যে-কোনো একটি)

পদ্মানদীর মাঝি— মানিক বন্দ্যোপাধ্যায় অরণ্যের অধিকার— মহাশ্বেতা দেবী	২৩	৬	১
---	----	---	---

### মডিউল-৩ : ছোটগল্প

ক.	রবীন্দ্রনাথ ঠাকুরের ছোটগল্প : নিশীথে, একরাত্রি, সুভা, অতিথি, ল্যাবরেটরী	১১	৩	১
খ	একালের ছোটগল্প সংকলন (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত) পাঠ্য : পয়োমুখম : জগদীশ গুপ্ত মহানগর : প্রেমেন্দ্র মিত্র ফসিল : সুবোধ ঘোষ এখন প্রেম : তপোবিজয় ঘোষ প্লাবনকাল : সুচিত্রা ভট্টাচার্য	১২	৩	

### সহায়ক গ্রন্থ (নির্বাচিত)

- বঙ্গ সাহিত্যে উপন্যাসের ধারা— শ্রীকুমার বন্দ্যোপাধ্যায়
- রবীন্দ্রনাথের উপন্যাস চেনানোর ও শিল্পরূপ— সৈয়দ আকরম হোসেন
- বাংলা উপন্যাসের কালান্তর— সরোজ বন্দ্যোপাধ্যায়
- রবীন্দ্রনাথ— সুবোধচন্দ্র সেনগুপ্ত
- শরৎচন্দ্র— সুবোধচন্দ্র সেনগুপ্ত
- শরৎচন্দ্র : পুনর্বিচার— অরুণকুমার মুখোপাধ্যায়
- রবীন্দ্র ছোটগল্পের শিল্পরূপ— তপোব্রত ঘোষ
- রবীন্দ্র উপন্যাসের নির্মাণশিল্প— গোপিকানাথ রায়চৌধুরী
- রবীন্দ্রনাথের ছোটগল্প ও উপন্যাস— উপেন্দ্রনাথ ভট্টাচার্য
- বাংলা ছোটগল্প : প্রসঙ্গ ও প্রকরণ— বীরেন্দ্র দত্ত
- কথাসাহিত্যে রবীন্দ্রনাথ— বিশ্বপতি চৌধুরী
- রবীন্দ্র সাহিত্যের নরনারী (১ম খণ্ড)— গোপীমোহন সিংহ রায়
- উপন্যাসিক মানিক বন্দ্যোপাধ্যায়— সরোজমোহন মিত্র
- রবীন্দ্র সাহিত্যের ভূমিকা— নীহাররঞ্জন রায়
- রবীন্দ্রনাথ/রাজনৈতিক ব্যক্তিত্ব— অরবিন্দ পোদ্দার
- রবীন্দ্র-মানস— অরবিন্দ পোদ্দার

## BNG-A-CC-4-8-TH-TU

### প্রাগাধুনিক সাহিত্য

**উদ্দেশ্য :** প্রাগাধুনিক সাহিত্যের এই কোর্সটির মাধ্যমে শিক্ষার্থীরা সাহিত্যের রসাস্বাদনের পাশাপাশি যাতে বাঙালির সমাজ ও ধর্ম-সংস্কৃতির বিবর্তনের গতিরেখাটিকেও অনুধাবন করতে পারে সেদিকে লক্ষ্য রাখা হয়েছে।

#### মডিউল-১ বৈষ্ণব পদাবলী (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ)

	Class Hours		
	Th	Tu	IA Exam
প্রারম্ভিক আলোচনা নীরদনয়নে নীর ঘন সিঞ্চে আজু হাম কি পেখলুঁ নবদ্বীপ চন্দ দাঁড়াইয়া নন্দের আগে গোপাল কান্দে অনুরাগে ঘরের বাহিরে দণ্ডে শতবার বৃপ লাগি আঁখি বুঝে গুণে মন ভোর এমন পিরীতি কভু নাহি দেখি শূনি সখি কি পুছসি অনুভব মোয় কণ্টক গাড়ি কমল সম পদতল মন্দির বাহির কঠিন কপাট কি মোহিনী জান বধুঁ কি মোহিনী জান বধুঁ তুমি যে আমার প্রাণ অঙ্কুর তপন তাপে যদি জারব বহুদিন পরে বধুঁয়া এলে তাতল সৈকত বারি-বিন্দুসম	২৩	৬	১

#### মডিউল-২

চণ্ডীমঙ্গল (১-ম খণ্ড) — মুকুন্দ চক্রবর্তী (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ)	২৩	৬	১
--	----	---	---

#### মডিউল-৩ : শাক্ত পদাবলী (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ)

প্রারম্ভিক আলোচনা গিরিবর, আর আমি পারিনে হে, প্রবোধ দিতে উমারে (বাল্যলীলা) গিরি, এবার আমার উমা এলে (আগমনী) কবে যাবে বল গিরিরাজ (ঐ) বারে বারে কহ রাণি, গৌরী আনিবারে (ঐ) ওহে হর গঙ্গাধর, কর অঙ্গীকার (ঐ) গিরিরাণি, এই নাও তোমার উমারে (ঐ) ওরে নবমী নিশি, না হইও রে (বিজয়া) ওহে প্রাণনাথ গিরিবর হে (ঐ) কেবল আসার আশা, ভবে আসা (ভক্তের আকুতি) মাগো তারা ও শঙ্করি (ঐ) মা আমায় ঘুরাবে কত (ঐ) আমি কি দুখে রে ডরাই? (ঐ) আমায় দেও মা তবিলদারী (ঐ) এমন দিন কি হবে তারা (ঐ)	২৩	৬	১
--	----	---	---

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ মধ্যযুগের কবি ও কাব্য— শঙ্করীপ্রসাদ বসু
- ☐ চণ্ডীদাস ও বিদ্যাপতি— শঙ্করীপ্রসাদ বসু
- ☐ শ্রীরাধার ক্রমবিকাশ— শশিভূষণ দাশগুপ্ত
- ☐ বৈষ্ণব রস প্রকাশ— ক্ষুদিরাম দাস
- ☐ বঙ্গে বৈষ্ণবধর্ম— রমাকান্ত চক্রবর্তী
- ☐ শাস্ত্র পদাবলী— জাহ্নবীকুমার চক্রবর্তী
- ☐ শাস্ত্রগীতি পদাবলী— অরুণকুমার বসু
- ☐ বাংলা মঙ্গলকাব্যের ইতিহাস— আশুতোষ ভট্টাচার্য
- ☐ চণ্ডীমঙ্গল— সুকুমার সেন সম্পাদিত
- ☐ চণ্ডীমঙ্গল— ক্ষুদিরাম দাস সম্পাদিত
- ☐ ভারতের শক্তি সাধনা ও শক্তি সাহিত্য— শ্রীশশিভূষণ দাশগুপ্ত
- ☐ বাংলার কাব্য— হুমায়ুন কবির
- ☐ কবিকঙ্কণ মুকুন্দের চণ্ডীমঙ্গল বীক্ষা ও সমীক্ষা— বিশ্বনাথ রায়
- ☐ চণ্ডীমঙ্গল— সনৎকুমার নস্কর

## BNG-A-CC-4-9-TH-TU

### ছন্দ, অলংকার ও কাব্যতত্ত্ব

**উদ্দেশ্য :** সাহিত্যের শিক্ষার্থীদের ছন্দ, অলংকার ও কাব্যতত্ত্ব বিষয়ে তত্ত্বজ্ঞান থাকা প্রয়োজন। এই কোর্স শিক্ষার্থীদের কাব্য-কবিতা পাঠকে গভীরতর করবে।

#### মডিউল-১ : ছন্দ

	Class Hours		
	Th	Tu	IA Exam
কবিতা ও ছন্দ— সাধারণ আলোচনা	২৩	৬	১
দল/অক্ষর, কলা/মাত্রা, যতি, যতিলোপ, পর্ব, পঙ্ক্তি/চরণ, ছত্র, পদ			
বাংলা ছন্দের ত্রিধারা			
মিশ্রবৃত্ত/তানপ্রধান/অক্ষরবৃত্ত— উদাহরণসহ বৈশিষ্ট্য			
সরল কলাবৃত্ত/কলাবৃত্ত/ধ্বনি প্রধান/মাত্রাবৃত্ত— উদাহরণসহ বৈশিষ্ট্য			
দলবৃত্ত/শ্বাসাঘাত প্রধান/বলবৃত্ত/স্বরবৃত্ত/ছড়ার ছন্দ/লৌকিক ছন্দ— উদাহরণসহ বৈশিষ্ট্য			
বাংলা ছন্দের কয়েকটি রূপবন্ধের পরিচয় ও উদাহরণসহ আলোচনা— পয়ার, সনেট, অমিত্রাক্ষর, মুক্তক, গদ্যছন্দ			
ছন্দোলিপি প্রণয়ন (পর্ব, পদ, পঙ্ক্তি, লয়, মাত্রা ও রীতির উল্লেখ বাঞ্ছনীয়)			

#### মডিউল-২ : অলংকার

কবিতা ও অলংকার— সাধারণ আলোচনা	২৩	৬	১
উদাহরণসহ সংজ্ঞা— অনুপ্রাস, শ্লেষ, যমক, বক্রোক্তি			
উদাহরণসহ সংজ্ঞা— উপমা, রূপক, সমাসোক্তি, উৎপ্রেক্ষা অপহুতি, দৃষ্টান্ত, ব্যতিরেক, বিরোধ, অর্থান্তরন্যাস, ব্যাজন্তুতি			
অলংকার নির্ণয়			

### মডিউল-৩ : কাব্যতত্ত্ব

কাব্য জিজ্ঞাসা— অতুলচন্দ্র গুপ্ত (পাঠ্য— ধ্বনি ও রস)	১৫	৩	১
অনুকরণতত্ত্ব	৮	৩	

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাংলা ছন্দের মূলসূত্র— অমূল্যধন মুখোপাধ্যায়
- ☐ নূতন ছন্দ পরিক্রমা— প্রবোধচন্দ্র সেন
- ☐ বাংলা ছন্দ পরিচয়— নীলরতন সেন
- ☐ অলংকার চন্দ্রিকা— শ্যামাপদ চক্রবর্তী
- ☐ বাঙলা ছন্দ— জীবেন্দ্র সিংহ রায়
- ☐ বাঙলা অলংকার— জীবেন্দ্র সিংহ রায়
- ☐ কাব্যবিচার— সুরেন্দ্রনাথ দাশগুপ্ত
- ☐ কাব্যতত্ত্ব বিচার— দুর্গাশঙ্কর মুখোপাধ্যায়
- ☐ সাহিত্য বিবেক— বিমলকুমার মুখোপাধ্যায়
- ☐ ছন্দতত্ত্ব ছন্দরূপ— পবিত্র সরকার
- ☐ কাব্যতত্ত্ব— অ্যারিস্টটল (শিশিরকুমার দাশ অনুদিত)
- ☐ অ্যারিস্টটলের পোয়েটিক ও সাহিত্যতত্ত্ব— সাধনকুমার ভট্টাচার্য

## BNG-A-CC-4-10-TH-TU

### প্রবন্ধ ও বিবিধ রচনা

**উদ্দেশ্য :** বাংলা প্রবন্ধে দার্শনিকতা বা চিন্তার প্রসার ঘটেছে উনিশ শতকের মধ্যভাগ থেকেই। সমাজ, রাষ্ট্র, শিক্ষা, বিজ্ঞান, ভাষা, সাহিত্য, ধর্ম, দর্শন— নানা বিষয়েই বাঙালি চিন্তকগণ প্রবন্ধের মাধ্যমে তাঁদের ভাবনাকে ব্যক্ত করেছেন। রবীন্দ্রনাথের ছিন্নপত্র ও বিশ্ববোধের এক অনন্য রূপ ব্যক্ত হয়েছে। এই কোর্সটির মাধ্যমে শিক্ষার্থীরা সমাজ ও সাহিত্য সম্পর্কিত বিচিত্র বিষয়ে সমৃদ্ধ হতে পারবে।

### মডিউল-১

		Class Hours		
		Th	Tu	IA Exam
ক	কমলাকান্তের দপ্তর— বঙ্কিমচন্দ্র চট্টোপাধ্যায় পাঠ্য : একা-কে গায় ওই, আমার মন, পতঙ্গ, বিড়াল	১১	৩	১
খ	একালের প্রবন্ধ সঙ্কলন (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত) পাঠ্য প্রবন্ধ : সংস্কৃতির সামাজিক দূরত্ব— বিনয় ঘোষ, শিক্ষা ও বিজ্ঞান— সতেন্দ্রনাথ বসু যে দেশে বহু ধর্ম বহু ভাষা— অন্নদাশঙ্কর রায় সাহিত্যের রাজনীতি— সরোজ আচার্য	১২	৩	

মডিউল-২

ক	সাহিত্য— রবীন্দ্রনাথ ঠাকুর পাঠ্য : সাহিত্যের তাৎপর্য, সাহিত্যের বিচারক, সৌন্দর্যবোধ	১১	৩	১
খ	একালের সমালোচনা সঙ্কলন (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত) পাঠ্য প্রবন্ধ : আধুনিক সাহিত্য— গোপাল হালদার রবীন্দ্রনাথ ও উত্তরসাধক— বুদ্ধদেব বসু পাশ্চাত্য ও প্রাচ্য সমালোচনার ধারা— সুবোধচন্দ্র সেনগুপ্ত উপন্যাস ও সমাজবাস্তবতা— আখতারুজ্জামান ইলিয়াস	১২	৩	

মডিউল-৩

ছিন্নপত্র— রবীন্দ্রনাথ ঠাকুর পত্রসংখ্যা— ১০, ১৮, ৩০, ৬৪, ৬৭, ৭৭, ৮১, ১০২, ১০৬, ১০৮	২৩	৬	১
---	----	---	---

সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ চিন্তনায়ক বঙ্কিমচন্দ্র— ভবতোষ দত্ত
- ☐ বঙ্কিমচন্দ্রের সাহিত্য জিজ্ঞাসা— বিষ্ণুপদ ভট্টাচার্য
- ☐ রবীন্দ্রসাহিত্য পাঠ— হরপ্রসাদ মিত্র
- ☐ রবীন্দ্রচর্যা— দেবীপদ ভট্টাচার্য
- ☐ রবীন্দ্রনন্দন তত্ত্ব— বিমলকুমার মুখোপাধ্যায়
- ☐ বঙ্কিমচন্দ্র— মোহিতলাল মজুমদার
- ☐ বঙ্কিমমানস— অরবিন্দ পোদ্দার
- ☐ বাংলা প্রবন্ধ সাহিত্যের ধারা (১, ২ খণ্ড)— অধীর দে
- ☐ সমালোচনা-সাহিত্য পরিচয়— কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত

## BNG-A-CC-5-11-TH-TU

### সাহিত্যের রূপ ও রীতি

**উদ্দেশ্য :** সাহিত্যের রূপবৈচিত্র্য ও গঠনরীতি সম্পর্কে এই কোর্সে ধারণা প্রদান করা হবে। সাহিত্যের বিভিন্ন সংরূপের রূপ ও আঙ্গিক সম্পর্কে জ্ঞানার্জনের পাশাপাশি শিক্ষার্থীরা সাহিত্যের বিবর্তন সম্পর্কেও ধারণা লাভ করতে পারবে।

#### মডিউল-১ কাব্য-কবিতা ও নাটক

		Class Hours		
		Th	Tu	IA Exam
ক	কবিতার বিভিন্ন রূপকল্প— মহাকাব্য, গীতিকবিতা, কবিগান, সনেট, হাইকু, বুবাই ও লিমেরিক	১০	৩	১
খ	নাটকের বিভিন্ন রূপকল্প— ট্রাজেডি, কমেডি, প্রহসন, কাব্যনাটক, নৃত্যনাট্য, সামাজিক নাটক, পৌরাণিক নাটক, অ্যাবসার্ড নাটক ও একাঙ্ক নাটক	১৩	৩	

#### মডিউল-২ : উপন্যাস ও ছোটগল্প

উপন্যাসের রূপকল্প ও শ্রেণিকরণ— নকশাধর্মী উপন্যাস, রোমান্সধর্মী উপন্যাস, সামাজিক উপন্যাস, ঐতিহাসিক উপন্যাস, রাজনৈতিক উপন্যাস, আঞ্চলিক উপন্যাস, মনস্তাত্ত্বিক উপন্যাস, চেতনাপ্রবাহরীতির উপন্যাস	২৩	৬	১
ছোটগল্পের প্রকৃতি			
ছোটগল্প ও রূপকথা			
অনুগল্প			
উপন্যাস ও ছোটগল্পের তুলনা			

#### মডিউল-৩ প্রবন্ধ, সমালোচনা ও অন্যান্য সংরূপ

প্রবন্ধের প্রকার— বস্তুনিষ্ঠ, ব্যক্তিগত, লঘু প্রবন্ধ ও গবেষণা-প্রবন্ধ	২৩	৬	১
সমালোচনা সাহিত্য			
ভ্রমণ সাহিত্য, ডায়েরি, পত্রসাহিত্য, রম্যরচনা, জীবনী ও আত্মজীবনী/স্মৃতিকথা			

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সাহিত্য সন্দর্শন— শ্রীশচন্দ্র দাস
- ☐ সাহিত্য ও সমালোচনার রূপরীতি— উজ্জ্বলকুমার মজুমদার
- ☐ সাহিত্য : রূপ-বিচিত্রা— অপূর্বকুমার রায়
- ☐ সাহিত্যের রূপরীতি ও অন্যান্য প্রসঙ্গ— কুস্তল চট্টোপাধ্যায়
- ☐ বাংলা সাহিত্যের রূপরীতি— শূন্যসত্ত্ব বসু
- ☐ সাহিত্যকোষ : কথাসাহিত্য— অলোক রায়
- ☐ সাহিত্য বিচার : তত্ত্ব ও প্রয়োগ— বিমলকুমার মুখোপাধ্যায়
- ☐ A Glossary of Literary Terms— M.H. Abrams

# BNG-A-CC-5-12-TH-TU

## নাটক ও নাট্যমঞ্চ

উদ্দেশ্য : নাট্যমঞ্চ ও নাটকের বিকাশ পরস্পরের সাপেক্ষ ও পরিপূরক। সামাজিক বাস্তবতার দর্পণ হিসেবে নাট্যসাহিত্য পাঠের পাশাপাশি পড়ুয়ারা নাট্যমঞ্চের বিকাশকেও বিবেচনার মধ্যে রাখবে এই উদ্দেশ্যে কোর্সটি করা হয়েছে।

### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
বুড় সালিকের ঘাড়ে রৌ— মধুসূদন দত্ত	৮	২	১
মুক্তধারা— রবীন্দ্রনাথ ঠাকুর	১৫	৪	

### মডিউল-২

কারাগার— মন্মথ রায়	৮	২	১
টিনের তলোয়ার— উৎপল দত্ত	১৫	৪	

### মডিউল-৩ : রঙ্গমঞ্চের ইতিহাস

লেবেডফ ও বেঙ্গলি থিয়েটার, নবীন বসুর শ্যামবাজার থিয়েটার, বেলগাছিয়া নাট্যশালা, জোড়াসাঁকো নাট্যশালা, বাগবাজার অ্যামেচার থিয়েটার (শ্যামবাজার নাট্যসমাজ)	২৩	৬	১
ন্যাশানাল থিয়েটার (প্রথম ও দ্বিতীয় পর্ব),			
নাট্যনিয়ন্ত্রণ বিল			
গণনাট্য ও নবনাট্য আন্দোলনের কাল			

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ নাটকের কথা— অজিতকুমার ঘোষ
- ☐ বাংলা নাট্যমঞ্চের ইতিহাস— ব্রজেন্দ্রনাথ বন্দ্যোপাধ্যায়
- ☐ রবীন্দ্রনাট্য সমীক্ষা : রূপক-সাংকেতিক— দুর্গাশঙ্কর মুখোপাধ্যায়
- ☐ কালের মাত্রা ও রবীন্দ্রনাটক— শঙ্খ ঘোষ
- ☐ বাংলা থিয়েটারের ইতিহাস— দর্শন চৌধুরী
- ☐ রবীন্দ্রসাহিত্যের নরনারী (৩য় খণ্ড) — গোপীমোহন সিংহ রায়
- ☐ কবি শ্রীমধুসূদন— মোহিতলাল মজুমদার
- ☐ গণনাট্য আন্দোলন— দর্শন চৌধুরী
- ☐ বাংলা নাট্যমঞ্চের রূপরেখা— দুর্গাশঙ্কর মুখোপাধ্যায়
- ☐ নাট্যমঞ্চ নাট্যরূপ— পবিত্র সরকার
- ☐ রঙ্গমঞ্চে বাংলা নাটকের প্রয়োগ— অজিতকুমার ঘোষ
- ☐ নাট্যতত্ত্ব ও নাট্যমঞ্চ— অজিতকুমার ঘোষ

## BNG-A-CC-6-13-TH-TU

### আধুনিক বাংলা কাব্য-কবিতা

উদ্দেশ্য : ঔপনিবেশিক আধুনিকতার সংস্পর্শে এসে আমাদের কাব্যে যে নবযুগের সঞ্চার হয়েছিল, তার বিভিন্ন পর্বকে পড়ুয়ারা অনুধাবন করতে পারবে এই কোর্সটির মাধ্যমে।

#### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
বীরাঙ্গনা কাব্য— মধুসূদন দত্ত পাঠ্য : দুস্মন্তের প্রতি শকুন্তলা, সোমের প্রতি তারা, দ্বারকানাথের প্রতি বুদ্ধিনী, দশরথের প্রতি কেকয়ী, লক্ষ্মণের প্রতি শূর্ণখা এবং নীলধ্বজের প্রতি জনা	২৩	৬	১

#### মডিউল-২

ক.	সোনার তরী— রবীন্দ্রনাথ ঠাকুর পাঠ্য : সোনার তরী, বৈয়ব কবিতা, বসুন্ধরা, নিরুদ্দেশ যাত্রা	১৩	৩	১
খ.	সঞ্চিতা— কাজী নজরুল ইসলাম পাঠ্য— বিদ্রোহী, অভিশাপ, দারিদ্র্য, নারী	১০	৩	

#### মডিউল-৩

একালের কবিতা সঞ্জন (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ) পাঠ্য : ক) রাত্রি— জীবনানন্দ দাশ, সোহংবাদ— সুধীন্দ্রনাথ দত্ত সংগতি— অমিয় চক্রবর্তী, রবীন্দ্রনাথের প্রতি— বুদ্ধদেব বসু প্রচ্ছন্ন স্বদেশ— বিষ্ণু দে	১২	৩	১
খ) বধু— সুভাষ মুখোপাধ্যায়, বোধন— সুকান্ত ভট্টাচার্য বৃক্ষ— কবিতা সিংহ, স্মৃতির শহরে— সুনীল গঙ্গোপাধ্যায় আমার নাম ভারতবর্ষ— অমিতাভ দাশগুপ্ত	১১	৩	

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ কবি শ্রীমধুসূদন— মোহিতলাল মজুমদার
- ☐ মধুসূদন কবি আত্মা ও কাব্যশিল্প— ক্ষেত্র গুপ্ত
- ☐ মধুসূদন : কবি ও নাট্যকার— সুবোধচন্দ্র সেনগুপ্ত
- ☐ রবীন্দ্র সরণী— প্রমথনাথ বিশী
- ☐ রবীন্দ্রকাব্য পরিক্রমা— উপেন্দ্রনাথ ভট্টাচার্য
- ☐ আধুনিক বাংলা কাব্য পরিচয়— দীপ্তি ত্রিপাঠী
- ☐ আধুনিক কবিতার দিগ্বলয়— অশ্রুকুমার শিকদার
- ☐ আমার কালের কয়েকজন কবি— জগদীশ ভট্টাচার্য
- ☐ আধুনিক বাংলা কবিতায় ইউরোপীয় প্রভাব— মঞ্জুভাষ মিত্র
- ☐ বাংলা কবিতার চালচিত্র— সুমিতা চক্রবর্তী
- ☐ নজরুলের কবিতা : অসংখ্যের শিল্প— ক্ষেত্র গুপ্ত



- ☐ জনগণের কবি কাজী নজরুল ইসলাম— কল্পতরু সেনগুপ্ত
- ☐ নিঃশব্দের তর্জনী— শঙ্খ ঘোষ
- ☐ আধুনিক কবিতার ইতিহাস— অলোকরঞ্জন দাশগুপ্ত ও দেবীপ্রসাদ বন্দ্যোপাধ্যায়
- ☐ কবিতার মিল ও অমিল— শিশিরকুমার দাশ
- ☐ এই কাব্য এই হাতছানি— শক্তি চট্টোপাধ্যায়
- ☐ বাংলা কবিতার কালান্তর — সরোজ বন্দ্যোপাধ্যায়

## BNG-A-CC-6-14-TH-TH

### সংস্কৃত, ইংরেজি ও প্রতিবেশী (হিন্দী) সাহিত্যের ইতিহাস

**উদ্দেশ্য :** বাংলা সাহিত্যের সামগ্রিক পরিচয় পাওয়ার পর শিক্ষার্থী সংস্কৃত, ইংরেজি এবং প্রতিবেশী (হিন্দী) সাহিত্যের ইতিহাস সম্পর্কে প্রাথমিক পরিচয় লাভ করবে এবং সেই আলোকে বাংলা সাহিত্য সম্পর্কেও তার মূল্যায়ন আরো স্বচ্ছ হয়ে উঠবে।

#### মডিউল-১ সংস্কৃত সাহিত্যের সংক্ষিপ্ত ইতিহাস

	Class Hours		
	Th	Tu	IA Exam
কালিদাস (কবি ও নাট্যকার)	২৩	৬	১
ভবভূতি			
বাণভট্ট			
শূদ্রক			
জয়দেব			

#### মডিউল-২ : ইংরেজি সাহিত্যের সংক্ষিপ্ত ইতিহাস

নাটক— উইলিয়াম শেক্সপিয়ার, জর্জ বার্নার্ড শ', স্যামুয়েল বেকেট	২৩	৬	১
কাব্য— উইলিয়াম ওয়ার্ডসওয়ার্থ, পি.বি. শেলি, জন কীটস, টি.এস এলিয়ট			
কথাসাহিত্য— ওয়াল্টার স্কট, চার্লস ডিকেন্স, ভার্জিনিয়া উলফ			

#### মডিউল-৩ : প্রতিবেশী সাহিত্যের সংক্ষিপ্ত ইতিহাস : হিন্দী (পঠন-পাঠন হবে বাংলায়)

ভারতেন্দু হরিশচন্দ্র, মুন্সী প্রেমচাঁদ	২৩	৬	১
মহাদেবী বর্মা, সূর্যকান্ত ত্রিপাঠী নিরলা, ফণীশ্বরনাথ রেণু			

#### সহায়কগ্রন্থ (নির্বাচিত)

- ☐ সংস্কৃত সাহিত্যের রূপরেখা— বিমানচন্দ্র ভট্টাচার্য
- ☐ সংস্কৃত সাহিত্য পরিক্রমা— করুণাসিন্ধু দাস
- ☐ সংস্কৃত সাহিত্যের দশরত্ন— সুখেন্দুসুন্দর গঙ্গোপাধ্যায়
- ☐ সংস্কৃত সাহিত্যের ইতিহাস— ধীরেন্দ্রনাথ বন্দ্যোপাধ্যায়
- ☐ ইংরাজী সাহিত্যের ইতিহাস— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ ইংরাজী সাহিত্যের সংক্ষিপ্ত ইতিহাস— সত্যপ্রসাদ সেনগুপ্ত
- ☐ ইংরাজী সাহিত্যের রূপরেখা— গোপাল হালদার
- ☐ ইংরেজী সাহিত্য পরিচয় — অরবিন্দ পোদ্দার
- ☐ ইংরেজী সাহিত্যের ইতিহাস— কুন্তল চট্টোপাধ্যায়
- ☐ হিন্দী সাহিত্যের ইতিহাস— বিজয়েন্দ্র স্নাতক (অনুবাদ—জ্যোতির্ময় দাশ)
- ☐ হিন্দী সাহিত্যের ইতিহাস— রামবহাল তেওয়ারী
- ☐ আধুনিক হিন্দী সাহিত্য : গতি ও প্রকৃতি— বিপ্লব চক্রবর্তী

## Discipline Specific Elective (DSE)– 6 Credit each (সাম্মানিক বাংলা)

- সাম্মানিক স্নাতক (বাংলা) পাঠ্যক্রমে ‘Discipline Specific Elective (DSE)’ স্তরে ২৪ ক্রেডিট-এর মোট ৪টি কোর্স পড়তে হবে। প্রদত্ত আটটি কোর্সকে দুটি বর্গে (A এবং B) বিভক্ত করা হয়েছে। A- বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স ১ এবং ২) থেকে যে-কোনো একটি কোর্স এবং B-বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স ১ এবং ২) থেকে যে-কোন একটি কোর্স নিয়ে মোট দুটি কোর্স পড়ুয়ারা পঞ্চম সেমিস্টারে পাঠ্য হিসেবে নির্বাচন করবে। ষষ্ঠ সেমিস্টারেও A- বর্গের শেষের দুটি কোর্স (অর্থাৎ কোর্স ৩ এবং ৪) থেকে একটি এবং B- বর্গের শেষের দুটি কোর্স (অর্থাৎ কোর্স ৩ এবং ৪) থেকে একটি নিয়ে মোট দুটি কোর্স পাঠ্য হিসেবে পড়ুয়ারা নির্বাচন করবে।
- ৬ ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট DSE-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য বরাদ্দ। ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য এবং ১৫ নম্বর কোর্সভিত্তিক টিউটোরিয়াল-এর জন্য বরাদ্দ। বাকি ৬৫ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে। প্রতিটি সেমিস্টারে পনেরো সপ্তাহ করে ক্লাস হবে এটা ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেবে দেওয়া হয়েছে।
- ৬৫ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৪টি বোধমূলক এবং ১ নম্বরের ১৫টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে।

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	মডিউল-১ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৫	মডিউল-২ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৬	মডিউল-৩ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৭	মডিউল-১, মডিউল-২ এবং মডিউল-৩ থেকে একটি করে প্রসঙ্গ/বিষয় নিয়ে টাকা-ধর্মী প্রশ্ন হবে। তিনটির মধ্যে যে-কোনো একটি লিখতে হবে।	৫
৮	প্রত্যেকটি মডিউল থেকে কমপক্ষে তিনটি করে প্রশ্ন নিয়ে মোট পনেরটি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ১৫

### BNG-A-DSE-A-5-1-TH-TU

#### বাংলার সমাজ ও সংস্কৃতির ইতিহাস

**উদ্দেশ্য :** বাংলা ভাষার উদ্ভবের সময়কাল থেকে আধুনিক কাল পর্যন্ত বাঙালি জাতির সাংস্কৃতিক বিকাশের গতিরেখার সঙ্গে শিক্ষার্থীদের পরিচয় ঘটানোই এই কোর্সের উদ্দেশ্য।

**মডিউল-১ :**

	Class Hours		
	Th	Tu	IA Exam
বাংলা ও বাঙালি জাতির ভৌগোলিক ও নৃতাত্ত্বিক পরিচয়	২৩	৬	১
বাংলার সমাজ কাঠামো ও অর্থনৈতিক ভিত্তি			
বাংলার রাজনৈতিক ইতিহাস			
বাংলার ধর্ম			
চৈতন্য-সংস্কৃতি			
বাঙালির সাংস্কৃতিক স্বরূপ			

## মডিউল-২

ঔপনিবেশিক আধুনিকতার অভিঘাত— শিক্ষায়, ধর্ম সংস্কারে ও মুক্ত চিন্তায়	২৩	৬	১
কৃষক আন্দোলন, নীল বিদ্রোহ, ফকির আন্দোলন			
ধর্ম, সমাজ ও শিক্ষা সংস্কারের উদ্দেশ্যে গঠিত সভা-সমিতি (১৯ শতক)			

## মডিউল-৩

বঙ্গভঙ্গ ও বয়কট-স্বদেশী আন্দোলন,	২৩	৬	১
প্রান্তবর্গ/দলিত জনগোষ্ঠীর জাগরণ			
বাঙালি মুসলমানের স্বতন্ত্র জাতিসত্তার সন্ধান			
দেশভাগ, উদ্বাস্তু সমস্যা ও ভাষা আন্দোলন			
খাদ্য আন্দোলন ও নকশাল আন্দোলন			

## সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙ্গালীর ইতিহাস— নীহাররঞ্জন রায়
- ☐ History of Medieval Bengal — রমেশচন্দ্র মজুমদার
- ☐ বাংলা দেশের ইতিহাস— রমেশচন্দ্র মজুমদার
- ☐ বাঙ্গালার ইতিহাস (অখণ্ড)— রাখালদাস বন্দ্যোপাধ্যায়
- ☐ বাঙ্গালীর সংস্কৃতি— সুনীতিকুমার চট্টোপাধ্যায়
- ☐ রামতনু লাহিড়ী ও তৎকালীন বঙ্গসমাজ— শিবনাথ শাস্ত্রী
- ☐ বাংলার ইতিহাস— সুভাষ মুখোপাধ্যায়
- ☐ সংস্কৃতির বিশ্বরূপ— গোপাল হালদার
- ☐ বাঙলা ও বাঙালীর বিবর্তন— অতুল সুর
- ☐ সংস্কৃতির রূপান্তর— গোপাল হালদার
- ☐ চৈতন্য-প্রসঙ্গ— বঙ্গীয় সাহিত্য পরিষদ প্রকাশিত
- ☐ বাংলার কাব্য— হুমায়ুন কবির
- ☐ ঔপনিবেশিক বাংলার সমাজ চিত্র— চিত্তরত্ন পালিত
- ☐ দেশ বিভাগ : পশ্চাৎ ও নেপথ্য কাহিনী— ভবানীপ্রসাদ চট্টোপাধ্যায়
- ☐ যুক্ত বাংলার শেষ অধ্যায়— কালীপদ বিশ্বাস
- ☐ পলাশি থেকে পার্টিশান— শেখর বন্দ্যোপাধ্যায়
- ☐ নীল বিদ্রোহ— পুলক চন্দ্র
- ☐ বাঙালির দর্শন— আমিনুল ইসলাম
- ☐ স্বাধীন ভারতের সাম্যবাদী আন্দোলন : রাজনীতি ও গতিপ্রকৃতি— শোভনলাল দত্তগুপ্ত
- ☐ সাহিত্য সমাজ ইতিহাস— পশ্চিমবঙ্গ ইতিহাস সংসদ প্রকাশিত
- ☐ বাংলার রেনেশাঁস— সুশোভন সরকার
- ☐ বাংলার নবজাগৃতি— বিনয় ঘোষ
- ☐ কলকাতা : ইতিহাসের দিনলিপি— নীরদবরণ হাজারা
- ☐ সংস্কৃতির ভাঙা সেতু— আখতারুজ্জামান ইলিয়াস
- ☐ শতাব্দীর প্রতিধ্বনি— অতুল সুর
- ☐ উত্তাল চল্লিশ : অসমাপ্ত বিপ্লব— অমলেন্দু সেনগুপ্ত
- ☐ জোয়ারভাটায় ষাট-সত্তর— অমলেন্দু সেনগুপ্ত
- ☐ হাজার বছরের বাঙালির সংস্কৃতি— গোলাম মুরশিদ

## BNG-A-DSE-A-5-2-TH-TU

### বাংলাদেশের সাহিত্য

উদ্দেশ্য : দেশভাগের পর পূর্ববঙ্গ তথা বাংলাদেশে বাংলা সাহিত্যের এক সমৃদ্ধ ধারা গড়ে উঠেছে। বাংলা সাহিত্যের পাঠ বাংলাদেশের সাহিত্য ব্যতিরেকে সম্পূর্ণতা লাভ করতে পারে না, এই বিবেচনাতেই কোর্সটির পরিকল্পনা করা হয়েছে।

#### মডিউল-১ : কথাসাহিত্য

		Class Hours		
		Th	Tu	IA Exam
ক.	সূর্য দীঘল বাড়ী— আবু ইসহাক	১৩	৩	১
খ.	প্যাপিরাস প্রকাশিত বাংলাদেশের গল্প গ্রন্থ থেকে নিচের গল্পগুলি পাঠ্য : আত্মজ্ঞা ও একটি করবী গাছ —হাসান আজিজুল হক খোয়াই নদীর বাঁক বদল— সেলিনা হোসেন সুন্দর মানুষ— বিপ্রদাস বড়ুয়া যুগলবন্দি— আখতারুজ্জামান ইলিয়াস মহাকালের খাঁড়া— কায়স আহমেদ	১০	৩	

#### মডিউল-২ : কবিতা ও নাটক

ক.	সপ্তর্ষি প্রকাশিত বাংলাদেশের শ্রেষ্ঠ কবিতা — রণজিৎ দাশ ও সাজ্জাদ শরীফ সম্পাদিত। পাঠ্য কবিতা : স্বাধীনতা তুমি— শামসুর রাহমান আমি কিংবদন্তীর কথা বলছি (অংশ)— আবু জাফর ওবাইদুল্লাহ সোনালী কাবিন ১৩— আল মাহমুদ তোমাকে অভিবাদন, প্রিয়তমা— শহীদ কাদরী নগর ধ্বংসের আগে— রফিক আজাদ জুই ফুলের চেয়ে শাদা ভাতই অধিক সুন্দর— মহাদেব সাহা মানুষ— নির্মলেন্দু গুণ এবাদত নামা ১৩— ফরহাদ মজহার তোমার দূরত্ব নিত্য আমার ক্রোধের দিনে— দাউদ হায়দার বাতাসে লাশের গন্ধ— রুদ্র মুহম্মদ শহিদুল্লাহ	১৩	৩	১
খ.	কবর— মুনীর চৌধুরী	১০	৩	

#### মডিউল -৩ : প্রবন্ধ

অরুণ সেন ও আবুল হাসনাত সম্পাদিত <b>বাঙালি ও বাংলাদেশ</b> (নয়াউদ্যোগ) গ্রন্থ থেকে নিম্নলিখিত প্রবন্ধগুলি পাঠ্য : অভিভাষণ— মুহম্মদ শহীদুল্লাহ □ বাঙালির আত্মপরিচয়ের সূত্রপাত— আবু জাফর শামসুদ্দীন □ ভাষা সংস্কার ও বাঙালি চেতনার বিকৃতি— আহমদ শরীফ □ মুসলমানদের স্বদেশ প্রত্যাবর্তন— বদরুদ্দীন উমর □ দ্বি-জাতিতত্ত্বের সত্যমিথ্যা— সিরাজুল ইসলাম চৌধুরী □ স্বরূপের সন্ধান— আনিসুজ্জামান □ বাংলাদেশ : পালিয়ে বেড়ায় দৃষ্টি এড়ায়— হাসান আজিজুল হক □ মার্চের স্বপ্ন— মুনতাসীর মামুন	২৩	৬	১
---	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- বাংলাদেশের সাহিত্য ও সংস্কৃতি— বিশ্বজিৎ ঘোষ
- বাংলা দেশের প্রবন্ধ সাহিত্য— আবুল কাসেম ফজলুল হক
- বাংলাদেশের উপন্যাস : বিষয় ও শিল্পরূপ— রফিকুল্লাহ খান

- ☐ বাংলাদেশের থিয়েটার— নৃপেন্দ্র সাহা (সম্পাদিত)
- ☐ বাংলাদেশের কবিতা : সমবায়ী স্বরতন্ত্র— রফিকুল্লাহ খান
- ☐ বাংলাদেশের ছোটগল্পের শিল্পরূপ— চঞ্চলকুমার বোস
- ☐ সংস্কৃতির ভাঙা সেতু— আখতারুজ্জামান ইলিয়াস
- ☐ ভাষা আন্দোলনের দলিলপত্র— রতনলাল চক্রবর্তী (সম্পাদিত)
- ☐ রাজনৈতিক চেতনা : বাংলাদেশের কবিতা— আমিনুর রহমান সুলতান
- ☐ বাংলাদেশের আধুনিক কাব্য পরিচয়— দীপ্তি ত্রিপাঠী
- ☐ পূর্ববাংলার রাজনীতি-সংস্কৃতি ও কবিতা— সাঈদ-উর রহমান
- ☐ বাংলাদেশের কবিতায় ব্যক্তি ও সমাজ— দিলারা হাফিজ
- ☐ বাঙালি মুসলমানের সামাজিক ইতিহাস : কতিপয় প্রসঙ্গ— হাবির রহমান

## BNG-A-DSE-A-6-3-TH-TU

### বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি

**উদ্দেশ্য :** সাহিত্যের পাঠ এবং আনন্দনে কিশোরদের অভ্যাস তৈরি হয়ে ওঠে গোয়েন্দা গল্প, কল্পবিজ্ঞানের কাহিনি অথবা ভূতের গল্পের মধ্য দিয়ে। তাদের চেনা ক্ষেত্রকেই পড়ুয়ারা এখানে বিদ্যায়তনিক পাঠ শৃঙ্খলায় অধ্যয়ন করতে শিখবে।

#### মডিউল-১

	Class Hour		
	Th	Tu	IA Exam
শজারুর কাঁটা— শরদিন্দু বন্দ্যোপাধ্যায়	২৩	৬	১

#### মডিউল-২

শঙ্কু সমগ্র (আনন্দ পাব.)— সত্যজিৎ রায় পাঠ্য সমূহ : ব্যোমযাত্রীর ডায়েরি, প্রফেসর শঙ্কু ও ম্যাকাও, প্রফেসর শঙ্কু ও গোলক-রহস্য, প্রফেসর শঙ্কু ও রোবু, হিপনোজেন, মহাকাশের দূত, শঙ্কু ও আদিম মানুষ, শঙ্কু ও ফ্র্যাঙ্কেনস্টাইন	২৩	৬	১
---	----	---	---

#### মডিউল-৩

সব ভুতুড়ে— লীলা মজুমদার	২৩	৬	১
--------------------------	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সত্যজিৎ রায়— পশ্চিমবঙ্গ বাংলা আকাদেমি
- ☐ এক দুর্লভ মানিক— অমিত্রসুদন ভট্টাচার্য
- ☐ ক্রাইম কাহিনীর কালক্রান্তি— সুকুমার সেন

# BNG-A-DSE-A-6-4-TH-TU

## তুলনামূলক সাহিত্য

উদ্দেশ্য : এই কোর্সে ধ্রুপদি সাহিত্যের সঙ্গে আধুনিক সাহিত্যের অথবা এই পর্যায়েরই বিভিন্ন ভাষায় লেখা সাহিত্যের তুলনামূলক পাঠ করা হবে। এর মধ্য দিয়ে পড়ুয়াদের সাহিত্য সংক্রান্ত চৈতন্য প্রসার ঘটনোই উদ্দেশ্য।

### মডিউল-১

	Class Hours		
	Th	Tu	IA Exam
কালিদাস ও রবীন্দ্রনাথ	১২	৩	১
জয়দেব ও বাংলা সাহিত্য	১১	৩	

### মডিউল-২

শেখরপীয়ার ও বাংলা সাহিত্য	১২	৩	১
এলিয়ট ও বাংলা কবিতা	১১	৩	

### মডিউল-৩

রবীন্দ্রনাথ ও ভারতীয় সাহিত্য	১৫	৩	১
শরৎচন্দ্র ও মুনী প্রেমচাঁদ	৮	৩	

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সংস্কৃতানুশীলনে রবীন্দ্রনাথ— সুখময় ভট্টাচার্য
- ☐ কালিদাস ও রবীন্দ্রনাথ— বিষ্ণুপদ ভট্টাচার্য
- ☐ কালিদাস ও রবীন্দ্রনাথ— নরেশচন্দ্র জানা
- ☐ বাংলা কাব্যে পাশ্চাত্য প্রভাব— উজ্জ্বলকুমার মজুমদার
- ☐ বাংলা কাব্যে ইউরোপীয় প্রভাব— মঞ্জুভাষ মিত্র
- ☐ কবি জয়দেব ও গীতগোবিন্দ— হরেকৃষ্ণ মুখোপাধ্যায়
- ☐ অলৌকিক সংলাপ— শিশিরকুমার দাশ
- ☐ রবীন্দ্রনন্দন তত্ত্ব— বিমলকুমার মুখোপাধ্যায়
- ☐ ত্রয়ী : বাস্ম্যিক কালিদাস রবীন্দ্রনাথ— শশিভূষণ দাশগুপ্ত
- ☐ বাঙালির ইংরেজি সাহিত্যচর্চা; স্বপন চক্রবর্তী
- ☐ ঘুমের দরজা ঠেলে— চিন্ময় গুহ
- ☐ এলিয়ট বিষ্ণু দে ও আধুনিক বাংলা কবিতা— বিনয়কুমার মাহাতা

## BNG-A-DSE-B-5-1-TH-TU

### বাংলা শিশু-কিশোর সাহিত্য

উদ্দেশ্য : বাংলা শিশু-কিশোর সাহিত্যের সুগভীর ঐতিহ্য রয়েছে। সেখান থেকে কিছু নির্বাচিত পাঠকে এখানে পড়ুয়ারা বিদ্যায়তনিক পাঠ-শৃঙ্খলায় অধ্যয়ন করতে শিখবে।

#### মডিউল-১

	Class Hour		
	Th	Tu	IA Exam
ক্ষীরের পুতুল— অবনীন্দ্রনাথ ঠাকুর	১৩	৩	১
ঠাকুরমার ঝুলি—দক্ষিণারঞ্জন মিত্র মজুমদার পাঠ্যসমূহ— কিরণমালা ● সাতভাই চম্পা ● সুখু আর দুখু	১০	৩	

#### মডিউল-২

আবোল তাবোল— সুকুমার রায় পাঠ্যসমূহ— আবোল তাবোল ● খিচুড়ি ● সৎপাত্র ● একুশে আইন ● নারদ! নারদ! ● গন্ধ বিচার	১১	৩	১
ছড়াসমগ্র — অন্নদাশঙ্কর রায় পাঠ্যসমূহ : লন্ডনের শীত ● খুকু ও খোকা ● পক্ষিরাজ ● কাটাকুটি খেলা ● অবাক চা পান ● ঢাকাই ছড়া ● সোনার হরিণ	১২	৩	

#### মডিউল-৩

বাদশাহী আংটি —সত্যজিৎ রায়	১১	৩	১
সবুজ দীপের রাজা — সুনীল গজগোপাধ্যায়	১২	৩	

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাংলার শিশুসাহিত্য— বৃন্দদেব বসু
- ☐ শতাব্দীর শিশুসাহিত্য— খগেন্দ্রনাথ মিত্র
- ☐ বাংলা শিশুসাহিত্যের ক্রমবিকাশ— আশা গজগোপাধ্যায়
- ☐ প্রসঙ্গ : অন্নদাশঙ্কর রায়— কলকাতা পৌরসংস্থা প্রকাশিত

# BNG-A-DSE-B-5-2-TH-TU

## দেশভাগ ও বাংলা সাহিত্য

**উদ্দেশ্য :** বাঙালি জাতির ইতিহাসে দেশভাগের একটি গভীরমূল এবং সুদূরপ্রসারী অভিঘাত রয়েছে। দেশভাগকে ঘিরে বাঙালির সামূহিক এবং ব্যক্তিক বিপন্নতা, বিপর্যয় এবং অসহায়ত্বের সাক্ষ্যবাহী নির্বাচিত কিছু সাহিত্যকে এখানে পাঠ্য করা হয়েছে।

### মডিউল-১ : উপন্যাস

	Class Hours		
	Th	Tu	IA Exam
নীলকণ্ঠ পাখির খোঁজে— অতীন বন্দ্যোপাধ্যায়	২৩	৬	১

### মডিউল-২ : ছোটগল্প

এপার গঙ্গা ওপার গঙ্গা— জ্যোতির্ময়ী দেবী গণনায়ক— সতীনাথ ভাদুড়ী ছেলেমানুষী— মানিক বন্দ্যোপাধ্যায় পালঙ্ক— নরেন্দ্রনাথ মিত্র ড্রেসিং টেবিল— সলিল চৌধুরী কবুণকন্যা— রমাপদ চৌধুরী রাজা আসে রাজা যায়— প্রফুল্ল রায় জটায়ু— দীপেন্দ্রনাথ বন্দ্যোপাধ্যায়	২৩	৬	১
---	----	---	---

### মডিউল-৩ : কবিতা

পূব-পশ্চিম— অচিন্ত্যকুমার সেনগুপ্ত খুকু ও খোকা— অন্নদাশঙ্কর রায় ১৫ই আগস্ট ১৯৪৭—দীনেশ দাস জল দাও— বিষ্ণু দে পারাপার— সুভাষ মুখোপাধ্যায় বাংলা, হায় বাংলা— মঙ্গলাচরণ চট্টোপাধ্যায় তোমাকে বলেছিলাম— নীরেন্দ্রনাথ চক্রবর্তী দেশহীন — শঙ্খ ঘোষ ধাত্রী—সুনীল গঙ্গোপাধ্যায় সমরেন্দ্র সেনগুপ্ত —ভাষাদেশ	২৩	৬	১
--	----	---	---

### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাংলা ছোটগল্পে দেশবিভাগ— সানজিদা আখতার
- ☐ ভূমিকা (রক্তমণির হারে গ্রন্থ)— দেবেশ রায়
- ☐ ভূমিকা (ভেদ-বিভেদ গ্রন্থ)— মানবেন্দ্র বন্দ্যোপাধ্যায়
- ☐ যুক্তবঙ্গের স্মৃতি— অন্নদাশঙ্কর রায়
- ☐ আমার জন্মভূমি/স্মৃতিময় বাংলাদেশ— ধনঞ্জয় দাশ
- ☐ ভাঙা বাংলা ও বাংলা সাহিত্য— অশ্রুকুমার শিকদার
- ☐ বাংলা উপন্যাসে দেশভাগ ও দেশত্যাগ— তারক সরকার
- ☐ দেশভাগ দেশত্যাগ— সন্দীপ বন্দ্যোপাধ্যায়
- ☐ যুক্ত বাংলার শেষ অধ্যায়— কালীপদ বিশ্বাস
- ☐ দেশ বিভাগ : পশ্চাৎ ও নেপথ্য কাহিনী— ভবানী প্রসাদ চট্টোপাধ্যায়
- ☐ বাংলা মধ্যবিত্তের আত্মবিকাশ— কামরুদ্দিন আহমেদ



- ☐ পূর্ব বাংলার সমাজ ও রাজনীতি— কামরুদ্দিন আহমেদ
- ☐ আমার দেখা রাজনীতির পঞ্চাশ বছর— আবুল মনসুর আহমেদ
- ☐ আমার জীবন ও বিভাগ পূর্ব বাংলার রাজনীতি— আবুল হাসিম
- ☐ কালের পুত্রলিকা— অরুণকুমার মুখোপাধ্যায়
- ☐ দেশভাগ : নির্বাসিতের আখ্যান— তপোধীর ভট্টাচার্য
- ☐ বিষাদবৃক্ষ— মিহির সেনগুপ্ত

## BNG-A-DSE-B-6-3-TH-TU

### চরিত সাহিত্য, আত্মচরিত ও ভ্রমণ সাহিত্য

**উদ্দেশ্য :** চরিত সাহিত্য ও আত্মচরিত পাঠের মধ্য দিয়ে পড়ুয়ারা ব্যক্তি চৈতন্যদেব কিংবা ব্যক্তি রবীন্দ্রনাথকে যেমন চিনবে তেমনি তাঁদের সময়কালের ধারণাটিকেও আয়ত্ত করতে পারবে। সুখপাঠ্য দেশে-বিদেশে পাঠের মধ্য দিয়েও ব্যক্তি মুক্ততাবা এবং তাঁর বিচিত্র জীবন অভিজ্ঞতার সঙ্গে পরিচিত হবে পড়ুয়ারা।

#### মডিউল ১

	Class Hours		
	Th	Tu	IA Exam
চৈতন্যভাগবত (আদ্যালীলা)— বৃন্দাবন দাস	২৩	১	১

#### মডিউল-২

জীবনস্মৃতি— রবীন্দ্রনাথ ঠাকুর	১৫	৬	১
-------------------------------	----	---	---

#### মডিউল-৩

দেশে-বিদেশে— সৈয়দ মজুতাবা আলী	১৫	৬	১
--------------------------------	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ চৈতন্য-প্রসঙ্গ— বঙ্গীয় সাহিত্য পরিষৎ প্রকাশিত
- ☐ জীবনী, আত্মজীবনী ও রবীন্দ্রনাথ— শিশিরকুমার দাশ
- ☐ জীবনের স্মরণলিপি : পশ্চিমের মুখর জানালা— বিজয়কুমার দত্ত

# BNG-A-DSE-B-6-4-TH-TU

## লোকসংস্কৃতি ও লোকসাহিত্য

**উদ্দেশ্য :** বাঙালি এবং তার সংস্কৃতিকে জানতে গেলে আমাদের লোকসংস্কৃতি ও লোকসাহিত্যের পাঠ নেওয়া খুবই জরুরি। বাংলার সমৃদ্ধ লোক-ঐতিহ্যের থেকে নির্বাচিত কয়েকটি প্রসঙ্গই এখানে পড়ুয়াদের চর্চার জন্য রাখা হচ্ছে।

### মডিউল-১

	Class Hour		
	Th	Tu	IA Exam
লোকসংস্কৃতি ও লোকসাহিত্যের সাধারণ পরিচয়	২৩	৬	১
টাইপ ও মোটিফ ইনডেক্স (বৈশিষ্ট্য ও প্রয়োগ শিক্ষার প্রাথমিক পাঠ)			
বাংলার ব্রত ও পার্বন (বিশেষ পাঠ : পুণ্যপুকুর, মাঘমন্ডল, সৈজুতি)			

### মডিউল-২

লোকছড়া	২৩	৬	১
লোকনৃত্য (বিশেষ পাঠ : ছৌ, রায়বেশে, গভীরা)			
ধাঁধা			

### মডিউল-২

বাংলা প্রবাদ	২৩	৬	১
লোকগান (বিশেষ পাঠ : বাউল, ভাটিয়ালী, ভাওয়াইয়া)			
লোককথা			

### সহায়ক গ্রন্থ (নির্বাচিত) :

- ☐ বাংলার ব্রত— অবনীন্দ্রনাথ ঠাকুর
- ☐ বাংলার লোক সাহিত্য— আশুতোষ ভট্টাচার্য
- ☐ লোকসংস্কৃতির সীমানা ও স্বরূপ— পল্লব সেনগুপ্ত
- ☐ ফোকলোর পরিচিতি ও পঠন-পাঠন— ময়হারুল ইসলাম
- ☐ বাংলা প্রবাদ— সুশীলকুমার দে
- ☐ বাংলার ধাঁধার ভূমিকা— নির্মলেন্দু ভৌমিক
- ☐ বাংলা ছড়ার ভূমিকা— নির্মলেন্দু ভৌমিক
- ☐ বাংলা লোককথার টাইপ ও মোটিফ ইনডেক্স— দিব্যজ্যোতি মজুমদার
- ☐ লোক সংস্কৃতি পাঠের ভূমিকা— তুষার চট্টোপাধ্যায়
- ☐ বঙ্গীয় লোকসংস্কৃতিকোষ— বরুণ চক্রবর্তী
- ☐ বাংলা লোকসংগীত : ভাটিয়ালি গান— ওয়াকিল আহমেদ
- ☐ বাউল ফকির কথা— সুধীর চক্রবর্তী

## Skill Enhancement Course (SEC)– 2 Credits each (সাম্মানিক বাংলা)

- ❑ স্নাতক (বাংলা) সাম্মানিক পাঠ্যক্রমের শিক্ষার্থীদের ‘Skill Enhancement Course (SEC)’ স্তরে ৪ (২ × ২) ক্রেডিট-এর মোট ২টি কোর্স পড়তে হবে। এখানে প্রদত্ত ৪টি কোর্সকে দুটি বর্গে (A এবং B) বিভক্ত করা হয়েছে। A- বর্গের যে-কোনো একটি কোর্স তৃতীয় সেমেস্টারে এবং B- বর্গের যে-কোনো একটি কোর্স চতুর্থ সেমেস্টারে পড়ুয়ারা নির্বাচন করবে।
- ❑ প্রতিটি সেমেস্টারে পনেরো সপ্তাহ করে ক্লাস হবে এটা ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- ❑ ২ ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট SEC-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য এবং ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য বরাদ্দ। বাকি ৮০ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে।
- ❑ ৮০ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৬টি বোধমূলক এবং ১ নম্বরের ২০টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প ও সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	প্রত্যেকটি মডিউল থেকে কমপক্ষে একটি করে প্রশ্ন নিয়ে মোট আটটি প্রশ্ন দেওয়া হবে। পরীক্ষার্থীকে যে-কোনো ছয়টি প্রশ্নের উত্তর দিতে হবে।	৫ × ৬
৫.	প্রত্যেকটি মডিউল থেকে কমপক্ষে চারটি করে প্রশ্ন নিয়ে মোট কুড়িটি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ২০

### BNG-A-SEC-A-3-1-TH

#### মুদ্রণ ও প্রকাশনা

উদ্দেশ্য : বাংলা মুদ্রণ ও প্রকাশনা সংক্রান্ত সাধারণ জ্ঞানার্জন করবে পড়ুয়ারা।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
পাণ্ডুলিপি প্রস্তুতি	১০	১
বাংলা যুক্তাক্ষরের ধারণা		
সংগ্রহ-সম্পাদনা ও সংকলন সম্পর্কে ধারণা		
কভার, টাইটেল পেজ, গ্রন্থ/পত্রিকার পঞ্জিকরণ সংক্রান্ত ধারণা		

#### মডিউল-২

এম. এস. ওয়ার্ড, পেজ মেকার	১০	১
কোরেল ড্র, ইনডিজাইন		

#### মডিউল-৩

প্রুফ সংশোধন (দৃষ্টিহীন পড়ুয়াদের জন্য অশুদ্ধি সংশোধন থাকবে)	১০	১
ছাপার প্রযুক্তি, স্টিচিং, বাইন্ডিং, মার্কেটিং সম্পর্কিত সাধারণ ধারণা		

### সহায়ক গ্রন্থ (নির্বাচিত)

- ❑ যখন ছাপাখানা এলো— শ্রীপাথ
- ❑ দুই শতকের বাংলা মুদ্রণ ও প্রকাশন— চিত্তরঞ্জন বন্দ্যোপাধ্যায় (সম্পাদিত)
- ❑ বাংলা পাণ্ডুলিপি পাঠ ও পরিক্রমা— ত্রিপুরা বসু
- ❑ মুদ্রণের সংস্কৃতি ও বাংলা বই— স্বপন চক্রবর্তী (সম্পাদিত)
- ❑ উনিশ শতকের বাংলা ছাপাখানা— আশিস খাস্তগীর
- ❑ গবেষণাপত্র : অনুসন্ধান ও রচনা— জগমোহন মুখোপাধ্যায়
- ❑ লেখক ও সম্পাদকের অভিধান— সুভাষ ভট্টাচার্য (সম্পাদিত)
- ❑ মাইক্রোসফট Micorsoft Office Power Point — বাপ্পি আশরাফ
- ❑ ডায়নামিক মেমরি কম্পিউটার কোর্স— দেবেন্দ্র সিং মিনহাস

## BNG-A-SEC-A-3-2-TH

### ব্যবহারিক বাংলা-১

**উদ্দেশ্য :** পরবর্তী জীবনে পেশা হিসেবে যে-সব পড়ুয়া নাটক অথবা সিনেমা-সিরিয়ালকে কিংবা আবৃত্তি শিল্পকে গ্রহণ করতে চাইবে, তারা ঐ সব বিষয়ের প্রাথমিক ধ্যানধারণা পাবে এই কোর্স থেকে।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
গল্পসূত্র থেকে কাহিনি নির্মাণ	১০	১
গল্প/উপন্যাস থেকে নাট্যরূপ/ চিত্রনাট্য নির্মাণ		

#### মডিউল-২

বাংলা ভাষার/শব্দের সঠিক উচ্চারণ	১০	১
ছন্দ সম্পর্কিত জ্ঞান, আবৃত্তিচর্চা		

#### মডিউল-৩

সাহিত্য ও চলচ্চিত্র— পারস্পরিক সম্পর্ক	১০	১
বাংলা সাহিত্যের চলচ্চিত্রায়ণ বিশেষ পাঠ : ক্ষুধিত পাষণ, পথের পাঁচালী, বাড়ি থেকে পালিয়ে		

### সহায়ক গ্রন্থ (নির্বাচিত) :

- ❑ চলচ্চিত্রের অভিধান— ধীমান দাশগুপ্ত
- ❑ বিষয় চলচ্চিত্র— সত্যজিৎ রায়
- ❑ বাংলা চলচ্চিত্রের ইতিহাস— নির্মাল্য আচার্য ও দিব্যেন্দু পালিত (সম্পাদিত)
- ❑ রবীন্দ্রনাথের সিনেমা সিনেমার রবীন্দ্রনাথ— চণ্ডী মুখোপাধ্যায়
- ❑ মৃণাল সেনের ফিল্মযাত্রা— শিলাদিত্য সেন
- ❑ কবিতার ক্লাস— নীরেন্দ্রনাথ চক্রবর্তী
- ❑ বিষয় আবৃত্তি— অমিয় চট্টোপাধ্যায়, দেবদুলাল বন্দ্যোপাধ্যায়
- ❑ বাংলা সিনেমার ইতিকথা : দুই বাংলার চলচ্চিত্র (১৯০৩-২০১৪)— চণ্ডী মুখোপাধ্যায়
- ❑ চলচ্চিত্র : চিন্তাবীজ রবের ব্রেস (ভাষান্তর : সন্দীপন ভট্টাচার্য)
- ❑ চলচ্চিত্র মানুষ এবং আরো কিছু— ঋত্বিককুমার ঘটক
- ❑ সিনেমার ইতিবৃত্ত— পার্থ রাহা
- ❑ বাংলা বলো— পবিত্র সরকার
- ❑ কি লিখি কেন লিখি— নীরেন্দ্রনাথ চক্রবর্তী

## BNG-A-SEC-B-4-1-TH

### ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান

উদ্দেশ্য : শিক্ষার্থীদের জীবনের নানা প্রয়োজনকে সুষ্ঠুভাবে এবং নিয়মমাফিক সমাধা করতে সহায়তা করবে এই কোর্সটি।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
সংবাদপত্রে অথবা ব্যক্তিগতভাবে প্রচারের লক্ষ্যে প্রতিবেদন রচনা	১০	১
চিঠিপত্র রচনা—বিভিন্ন প্রকার সহ		
কাল্পনিক সাক্ষাৎকার রচনা		

#### মডিউল-২

ছাপা মাধ্যম এবং বৈদ্যুতিন মাধ্যমের জন্য বিজ্ঞাপন রচনা	১০	১
অনুবাদের ভাষা ও শৈলী		
ইংরেজি থেকে বাংলা অনুবাদ		

#### মডিউল-৩

গবেষণার রীতি ও নির্মাণ পদ্ধতি, গবেষণার আদর্শ বিন্যাসক্রম	১০	১
তথ্য সংগ্রহ, উদ্ধৃতির প্রয়োগ, কপিরাইট আইন		
পাদটীকা/প্রাস্তটীকা/সূত্র নির্দেশ, গ্রন্থপঞ্জি ও নির্ঘণ্ট প্রণয়ন বিধি		

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ গণজ্ঞাপন : তত্ত্ব ও প্রয়োগে— পার্থ চট্টোপাধ্যায়
- ☐ সেকাল একালের সংবাদ পরিবেশনের ধারা ও বিচিত্র সংবাদ— বৈদ্যনাথ বন্দ্যোপাধ্যায়
- ☐ গবেষণাপত্র : অনুসন্ধান ও রচনা— জগমোহন মুখোপাধ্যায়

## BNG-A-SEC-B-4-2-TH

### ব্যবহারিক বাংলা-২

**উদ্দেশ্য :** যে-সব সাহিত্যরূপ পড়ুয়ারা পড়ছে/পড়েছে তা কীভাবে তৈরি হয়ে ওঠে, তার কলাকৌশলগুলি সম্পর্কে এখানে হাতে কলমে তাদের ধারণা দেওয়া হবে। তার সঙ্গে বানান এবং IPA ও রোমীয় লিপি সংক্রান্ত ব্যবহারিক জ্ঞানও দিতে চাওয়া হয়েছে এই কোর্সে।

#### মডিউল-১ : সৃজনশীল রচনা

	Class Hours	
	Th	IA Exam
গল্প রচনা (সামাজিক/পারিবারিক/ব্যক্তিক কোনো প্রসঙ্গ/বিষয় অবলম্বনে কমবেশি ৩০০ শব্দে গল্প লিখতে দেওয়া হবে)	১০	১
প্রবন্ধ রচনা (সামাজিক/পারিবারিক/ব্যক্তিক অথবা সাহিত্য বিষয়ক কোনো প্রসঙ্গ/বিষয় অবলম্বনে কমবেশি ৩০০ শব্দে প্রবন্ধ লিখতে দেওয়া হবে)		

#### মডিউল-২

বাংলা বানানের বিবর্তন সম্পর্কে সাধারণ ধারণা	১০	১
পশ্চিমবঙ্গ বাংলা আকাদেমির বানান বিধি		

#### মডিউল-৩

আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA)	১০	১
রোমীয় লিপি		

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সাধারণ ভাষাবিজ্ঞান ও বাংলাভাষা— রামেশ্বর শ’
- ☐ কি লিখি কেন লিখি— নীরেন্দ্রনাথ চক্রবর্তী
- ☐ বাংলা বানান বিধি— পরেশচন্দ্র মজুমদার
- ☐ বাংলা বানান সংস্কার, সমস্যা ও সম্ভাবনা— পবিত্র সরকার

# কলিকাতা বিশ্ববিদ্যালয়

## ২০১৮

### স্নাতক বাংলা পাঠ্যক্রম

### সাধারণ

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

## স্নাতক সাধারণ বাংলা

### A)i) Discipline Centric Core Course (CC)/Generic Elective (GE)\* – 6 Credits Each

BNG-G-CC/GE-1-1-Th-Tu	বাংলা সাহিত্যের ইতিহাস (আধুনিক যুগ)
BNG-G-CC/GE-2-2-Th-Tu	ঐতিহাসিক ভাষাবিজ্ঞান, ছন্দ ও অলঙ্কার
BNG-G-CC/GE-3-3-Th-Tu	বাংলা কাব্যকবিতা ও নাটক
BNG-G-CC/GE-4-4-Th-Tu	বাংলা কথাসাহিত্য ও প্রবন্ধ

\* এই চারটি কোর্স থেকেই দুটি কোর্স সাম্মানিক বাংলা ছাড়া অন্য বিষয়ের সাম্মানিক প্রোগ্রামের পড়ুয়ারা Generic Elective (GE)-পর্যায়ের পাঠ্য হিসেবে গ্রহণ করবে/করতে পারে।

\*কলা বিভাগের সাধারণ (General) প্রোগ্রামের যে-সমস্ত শিক্ষার্থী Discipline Centric Core Course (CC) পর্যায়ের পাঠ্য হিসেবে বাংলা গ্রহণ করেনি এবং LCC(2) পর্যায়েও পাঠ্য হিসেবে বাংলা বিকল্পটি (MIL গুলির মধ্যে) গ্রহণ করেনি—শুধুমাত্র তারাই Generic Elective (GE)-পর্যায়ে এখান থেকে প্রথম দুটি কোর্স পাঠ্য হিসেবে নির্বাচন করতে পারে।

### A)ii) Language Core Course [LCC(2)] – 6 Credits Each

BNG-G-LCC(2)-4-1-Th-Tu	বাংলা ভাষাবিজ্ঞান ও সাহিত্যের রূপভেদ ও কাব্য
BNG-G-LCC(2)-6-2-Th-Tu	সাময়িকপত্র ও কথাসাহিত্য

### B) Discipline Specific Elective (DSE) – 6 Credits Each

BNG-G-DSE-A-5-1-Th-Tu	বাংলার সমাজ ও সংস্কৃতির ইতিহাস
BNG-G-DSE-A-5-2-Th-Tu	বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি
BNG-G-DSE-B-6-1-Th-Tu	দেশভাগ ও বাংলা সাহিত্য
BNG-G-DSE-B-6-2-Th-Tu	লোকসংস্কৃতি ও লোকসাহিত্য

### C) Skill Enhancement Course (SEC) – 2 Credits Each

BNG-G-SEC-A-3/5-1-Th	মুদ্রণ ও প্রকাশন
BNG-G-SEC-A-3/5-2-Th	ব্যবহারিক বাংলা-১
BNG-G-SEC-B-4/6-1-Th	ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান
BNG-G-SEC-B-4/6-2-Th	ব্যবহারিক বাংলা-২

### D) Ability Enhancement Compulsory Course (AECC)– 2 Credits

BNG-AECC-1-1-Th	
-----------------	--



**স্নাতক বাংলা (সাধারণ) পাঠক্রমের সেমিস্টার ভিত্তিক বিভাজন**

	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6
<b>A) Core Course (CC)</b> 6 Credits each	● BNG-G-CC-1-1-TH-TU + ☒	● BNG-G-CC-2-2-TH-TU + ☒	● BNG-G-CC-3-3-TH-TU + ☒	● BNG-G-CC-4-4-TH-TU + ☒		
<b>Language (LCC)</b>			☒	● BNG-G-LCC(2)-4-1-TH-TU	☒	● BNG-G-LCC(2)-6-2-TH-TU
<b>B) Elective Courses</b> 6 Credits each						
<b>i) Generic Elective (GE)</b>	☒	☒				
<b>ii) Discipline Specific Elective (DSE)</b>					যে-কোনো একটি ● BNG-G-DSE-A-5-1-TH-TU ● BNG-G-DSE-A-5-2-TH-TU ● + ☒	যে-কোনো একটি ● BNG-G-DSE-B-6-1-TH-TU/ ● BNG-G-DSE-B-6-2-TH-TU ● + ☒
<b>C) Skill Enhancement Course (SEC) 2 Credits Each</b>			যে-কোনো একটি (এখানে অথবা পঞ্চম সেমিস্টারে) ● BNG-G-SEC-A-3/5-1-TH ● BNG-G-SEC-A-3/5-2-TH //// + ☒	যে-কোনো একটি (এখানে অথবা ষষ্ঠ সেমিস্টারে) ● BNG-G-SEC-B-4/6-1-TH ● BNG-G-SEC-B-4/6-2-TH //// + ☒	যে-কোনো একটি (এখানে অথবা তৃতীয় সেমিস্টারে) ● BNG-G-SEC-A-3/5-1-TH ● BNG-G-SEC-A-3/5-2-TH //// + ☒	যে-কোনো একটি (এখানে অথবা চতুর্থ সেমিস্টারে) ● BNG-G-SEC-B-4/6-1-TH ● BNG-G-SEC-B-4/6-2-TH //// + ☒
<b>D) Ability Enhancement Compulsory Course (AECC) 2 Credits</b>	● BNG-AECC-1-1-TH	☒				
<b>Total Marks/ Credits</b>	400/20	400/20	400/20	400/20	400/20	400/20

**Note :** বাংলা ছাড়া পাঠ্য অন্য কোর্স বোঝাতে ☒ চিহ্নটি ব্যবহার করা হয়েছে।

# Discipline Centric Core Course (CC)/ Generic Elective (GE) [For Honours students other than Bengali(H)] – 6 Credits Each (সাধারণ বাংলা )

- ❑ স্নাতক সাধারণ (বাংলা) পাঠ্যক্রমে ‘Discipline Centric Core Course’ স্তরে ২৪ ক্রেডিট-এর মোট ৪টি কোর্স প্রথম ৪টি সেমেস্টারে পড়তে হবে।
- ❑ এই চারটি কোর্স থেকেই দুটি কোর্স সাম্মানিক বাংলা ছাড়া অন্য বিষয়ের সাম্মানিক প্রোগ্রামের পড়ুয়ারা Generic Elective (GE)-পর্যায়ের পাঠ্য হিসেবে গ্রহণ করবে/করতে পারে।
- ❑ কলা বিভাগের সাধারণ (General) প্রোগ্রামের যে-সমস্ত শিক্ষার্থী Discipline Centric Core Course (CC) পর্যায়ের পাঠ্য হিসেবে বাংলা গ্রহণ করেনি এবং LCC(2) পর্যায়ের পাঠ্য হিসেবে বাংলা বিকল্পটি (MIL গুলির মধ্যে) গ্রহণ করেনি— শুধুমাত্র তারাই Generic Elective (GE)-পর্যায়ের এখান থেকে প্রথম দুটি কোর্স পাঠ্য হিসেবে নির্বাচন করতে পারে।
- ❑ ৬ (৫ + ১) ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট CC-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য বরাদ্দ। ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য এবং ১৫ নম্বর কোর্সভিত্তিক টিউটোরিয়াল-এর জন্য বরাদ্দ। বাকি ৬৫ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে। প্রতিটি সেমেস্টারে পনেরো সপ্তাহ করে ক্লাস হবে ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- ❑ ৬৫ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৪টি বোধমূলক এবং ১ নম্বরের ১৫টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে।

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	মডিউল-১ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৫	মডিউল-২ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৬	মডিউল-৩ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৭	মডিউল-১, মডিউল-২ এবং মডিউল-৩ থেকে একটি করে প্রসঙ্গ/বিষয় নিয়ে টাকা-ধর্মী প্রশ্ন হবে। তিনটির মধ্যে যে-কোনো একটি লিখতে হবে।	৫
৮	প্রত্যেকটি মডিউল থেকে কমপক্ষে <u>তিনটি</u> করে প্রশ্ন নিয়ে মোট <u>পনেরটি</u> সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ১৫

## BNG-G-CC/GE-1-1-TH-TH

### বাংলা সাহিত্যের ইতিহাস (আধুনিক যুগ)

**উদ্দেশ্য :** ১৮০০ খ্রিস্টাব্দ পরবর্তী সময়কালে বাংলা সাহিত্যের বিভিন্ন ধারার বিবর্তনের গতিরেখার সঙ্গে শিক্ষার্থীদের পরিচিতি ঘটানো এই কোর্সের উদ্দেশ্য।

**মডিউল-১ :** গদ্য ও প্রবন্ধ

	Class Hours		
	Th	Tu	IA Exam
শ্রীরামপুর মিশন, ফোর্ট উইলিয়াম কলেজ	২৩	৬	১
রাজা রামমোহন রায়, ঈশ্বরচন্দ্র বিদ্যাসাগর, অক্ষয়কুমার দত্ত			
প্যারীচাঁদ মিত্র, কালীপ্রসন্ন সিংহ			
বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর			
প্রমথ চৌধুরী, বুদ্ধদেব বসু			

মডিউল-২ : কাব্য-কবিতা ও নাটক

ক.	ঈশ্বরচন্দ্র গুপ্ত, রঙ্গলাল বন্দ্যোপাধ্যায়	১৩	৩	১
	মধুসূদন দত্ত, বিহারীলাল চক্রবর্তী			
	রবীন্দ্রনাথ ঠাকুর, কাজী নজরুল ইসলাম			
	যতীন্দ্রনাথ সেনগুপ্ত, জীবনানন্দ দাশ, সুভাষ মুখোপাধ্যায়			
খ.	মধুসূদন দত্ত, দীনবন্ধু মিত্র	১০	৩	
	গিরিশচন্দ্র ঘোষ, রবীন্দ্রনাথ ঠাকুর			
	দ্বিজেন্দ্রলাল রায়, বিজন ভট্টাচার্য			

মডিউল-৩ : উপন্যাস ও ছোটগল্প

বাংলা উপন্যাসের উদ্ভব ও বিকাশ	২৩	৬	১
বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, শরৎচন্দ্র চট্টোপাধ্যায়			
বিভূতিভূষণ বন্দ্যোপাধ্যায়, তারাশঙ্কর বন্দ্যোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়			

সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙ্গালা সাহিত্যের ইতিহাস (৩-৫ খণ্ড)— সুকুমার সেন
- ☐ বাংলা গদ্য সাহিত্যের ইতিহাস— সজনীকান্ত দাস
- ☐ বাংলা সাহিত্যে গদ্য— সুকুমার সেন
- ☐ বাংলা সাহিত্যের ইতিবৃত্ত (৬-৯)— অসিতকুমার বন্দ্যোপাধ্যায়
- ☐ বাংলা সাহিত্যের ইতিকথা (৩-৪)— ভূদেব চৌধুরী
- ☐ আধুনিক বাংলা কাব্য— তারাশঙ্কর মুখোপাধ্যায়
- ☐ উনিশ শতকের গীতিকাব্য— অরুণকুমার মুখোপাধ্যায়
- ☐ বাংলা সাময়িক পত্র— ব্রজেন্দ্রনাথ বন্দ্যোপাধ্যায়
- ☐ বাংলা নাটকের ইতিহাস— অজিতকুমার ঘোষ
- ☐ গদ্যরীতি পদ্যরীতি— পবিত্র সরকার
- ☐ রবীন্দ্রানুসারী কবিসমাজ— অরুণকুমার মুখোপাধ্যায়
- ☐ আমার কালের কয়েকজন কবি— জগদীশ ভট্টাচার্য
- ☐ রবীন্দ্রনাট্য পরিক্রমা— উপেন্দ্রনাথ ভট্টাচার্য
- ☐ রবীন্দ্রনাট্য প্রবাহ— প্রমথনাথ বিন্দী
- ☐ বাংলা নাটকের ইতিহাস— অজিত কুমার ঘোষ
- ☐ বঙ্গসাহিত্যে উপন্যাসের ধারা— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ সাহিত্য টীকা— সনৎকুমার মিত্র
- ☐ বাংলা প্রবন্ধ সাহিত্যের ধারা (১, ২ খণ্ড)— অধীর দে
- ☐ বাংলা সাহিত্যের ইতিহাস (আধুনিক যুগ)— দেবেশকুমার আচার্য

## BNG-G-CC/GE-2-2-TH-TU

### ঐতিহাসিক ভাষাবিজ্ঞান, ছন্দ ও অলংকার

**উদ্দেশ্য :** বাংলা ভাষার উদ্ভব ও বিকাশ সম্পর্কে শিক্ষার্থীকে ধারণা দেওয়া হবে। কাব্য নির্মানের অন্যতম উপাদান হিসেবে ছন্দ ও অলংকারের সংক্ষিপ্ত পাঠও এই কোর্স থেকে গ্রহণ করবে পড়ুয়ারা।

#### মডিউল-১ : ঐতিহাসিক ভাষাবিজ্ঞান

	Class Hours		
	Th	Tu	IA Exam
প্রাচীন ভারতীয় আর্যভাষা থেকে আধুনিক ভারতীয় আর্যভাষা হিসেবে বাংলা ভাষার উদ্ভবের গতিরেখা	২৩	৬	১
আদি-মধ্য বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষণ— প্রেক্ষিত শ্রীকৃষ্ণকীর্তন			

#### মডিউল-২ : ছন্দ

অক্ষর, দল, কলা, মাত্রা, যতি, পর্ব, পদ, পঙ্তি/চরণ— সংজ্ঞা ও উদাহরণসহ প্রতিটির ধারণা	২৩	৬	১
বাংলা ছন্দের ত্রিধারা— সংজ্ঞা, বৈশিষ্ট্য ও উদাহরণ			
ছন্দোলিপি প্রণয়ন (পর্ব, পদ, পঙ্তি, লয়, মাত্রা ও রীতির উল্লেখ বাঞ্ছনীয়)			

#### মডিউল-৩ : অলংকার

অলংকার সম্পর্কে সাধারণ ধারণা	২৩	৬	১
অনুপ্রাস, যমক, শ্লেষ, বক্রোক্তি, উপমা, রূপক, উৎপ্রেক্ষা, সমাসোক্তি, ব্যাজন্তুতি, ব্যতিরেক— সংজ্ঞা ও উদাহরণ			
অলংকার নির্ণয়			

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ভাষা-প্রকাশ বাঙালা ব্যাকরণ— সুনীতিকুমার চট্টোপাধ্যায়
- সংস্কৃত ও প্রাকৃত ভাষার ক্রমবিকাশ (১-২ খণ্ড)— পরেশচন্দ্র মজুমদার
- বাংলা ভাষা পরিক্রমা— পরেশচন্দ্র মজুমদার
- ভাষা-জিজ্ঞাসা— শিশিরকুমার দাশ
- ভাষার ইতিবৃত্ত— সুকুমার সেন
- সাধারণ ভাষাবিজ্ঞান ও বাংলা ভাষা— রামেশ্বর শ’
- আধুনিক ভাষাতত্ত্ব— আবদুল কালাম মন্জুর মোরশেদ
- বাংলা ছন্দের মূলসূত্র— অমূল্যধন মুখোপাধ্যায়
- নূতন ছন্দ পরিক্রমা— প্রবোধচন্দ্র সেন
- বাংলা ছন্দ পরিচয়— নীলরতন সেন
- অলংকার চন্দ্রিকা— শ্যামাপদ চক্রবর্তী
- বাঙলা ছন্দ— জীবেন্দ্র সিংহ রায়
- বাঙলা অলংকার— জীবেন্দ্র সিংহ রায়
- ছন্দতত্ত্ব ছন্দরূপ— পবিত্র সরকার

## BNG-G-CC/GE-3-3-TH-TU

### বাংলা কাব্য-কবিতা ও নাটক

**উদ্দেশ্য :** বাংলা ভাষা ও সাহিত্যের ইতিহাস এবং ছন্দ অলঙ্কার সম্পর্কে পাঠ গ্রহণের পর শিক্ষার্থীরা এই কোর্সে সাহিত্যের আন্বেদন করবে। বাংলা কাব্যের বিবর্তনের ধারাটিও তাদের কাছে স্পষ্ট হবে।

#### মডিউল-১ : প্রাগাধুনিক কবিতা

	Class Hours		
	Th	Tu	IA Exam
বৈষ্ণব পদাবলী (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ) নির্বাচিত পদসমূহ : নীরদনয়নে নীর ঘন সিঞ্চে আজু হাম কি পেখলু নবদীপ চন্দ দাঁড়াইয়া নন্দের আগে গোপাল কান্দে অনুরাগে ঘরের বাহিরে দন্ডে শতবার রূপ লাগি আঁখি বুঝে গুণে মন ভোর এমন পিরীতি কভু নাহি দেখি শূনি সখি কি পুছসি অনুভব মোয় কণ্টক গাড়ি কমল সম পদতল মন্দির বাহির কঠিন কপাট কি মোহিনী জান বধুঁ কি মোহিনী জান বধুঁ তুমি যে আমার প্রাণ অঙ্কুর তপন তাপে যদি জারব বহুদিন পরে বধুঁয়া এলে তাতল সৈকত বারি-বিন্দুসম	২৩	৬	১

#### মডিউল-২ : আধুনিক কবিতা

ক.	পুনশ্চ— রবীন্দ্রনাথ ঠাকুর নির্বাচিত কবিতা— ছেলোটো, সাধারণ মেয়ে, বাঁশি, প্রথম পূজা	১০	৩	১
খ.	একালের কবিতা সংকলন (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ) নির্বাচিত কবিতা : নষ্টনীড়— সমর সেন, আমার ভারতবর্ষ—বীরেন্দ্র চট্টোপাধ্যায় দেশ দেখাচ্ছ অন্ধকারে—নীরেন্দ্রনাথ চক্রবর্তী, কেউ কথা রাখেনি—সুনীল গঙ্গোপাধ্যায়	১৩	৩	

#### মডিউল-৩ : বাংলা নাটক

রাজা ও রানী— রবীন্দ্রনাথ ঠাকুর	২৩	৬	১
--------------------------------	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ মধ্যযুগের কবি ও কাব্য— শঙ্করীপ্রসাদ বসু
- ☐ চণ্ডীদাস ও বিদ্যাপতি— শঙ্করীপ্রসাদ বসু
- ☐ শ্রীরাধার ক্রমবিকাশ : দর্শনে ও সাহিত্যে— শশিভূষণ দাশগুপ্ত
- ☐ বৈষ্ণব রস প্রকাশ— ক্ষুদ্রিরাম দাস
- ☐ রবীন্দ্র কাব্য পরিক্রমা— উপেন্দ্রনাথ ভট্টাচার্য
- ☐ রবীন্দ্র নাট্য পরিক্রমা— উপেন্দ্রনাথ ভট্টাচার্য
- ☐ রবীন্দ্র নাট্য প্রবাহ— প্রমথনাথ বিশী
- ☐ আধুনিক বাংলা কাব্য পরিচয়— দীপ্তি ত্রিপাঠী
- ☐ আমার কালের কয়েকজন কবি— জগদীশ ভট্টাচার্য

## BNG-G-CC/GE-4-4-TH-TU

### বাংলা কথাসাহিত্য ও প্রবন্ধ

উদ্দেশ্য : এই কোর্সে বাংলা কথাসাহিত্য এবং প্রবন্ধ সাহিত্যের পাঠ দেওয়া হবে।

#### মডিউল-১ : উপন্যাস

	Class Hours		
	Th	Tu	IA Exam
পল্লীসমাজ— শরৎচন্দ্র চট্টোপাধ্যায়	২৩	৬	১

#### মডিউল-২ : ছোটগল্প

একালের ছোটগল্প সঞ্চারন (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ) পাঠ্য : পুঁই মাচা— বিভূতিভূষণ বন্দ্যোপাধ্যায় না— তারাশঙ্কর বন্দ্যোপাধ্যায় হারানের নাতজামাই— মানিক বন্দ্যোপাধ্যায় অশ্বমেধের ঘোড়া— দীপেন্দ্রনাথ বন্দ্যোপাধ্যায় মতিলাল পাদরী— কমলকুমার মজুমদার ছিন্নমস্তা— আশাপূর্ণা দেবী	২৩	৬	১
--	----	---	---

#### মডিউল-৩ : প্রবন্ধ

সংকলন— রবীন্দ্রনাথ ঠাকুর পাঠ্য প্রবন্ধ সমূহ— শিক্ষার মিলন, পূর্ব ও পশ্চিম, মেঘদূত, কেকাধ্বনি	২৩	৬	১
---	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বঙ্গ সাহিত্যে উপন্যাসের ধারা— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ শরৎচন্দ্র— সুবোধচন্দ্র সেনগুপ্ত
- ☐ রবীন্দ্র সৃষ্টি সমীক্ষা— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ বাংলা ছোটগল্প— শিশিরকুমার দাশ
- ☐ মানিক বন্দ্যোপাধ্যায় : জীবনদৃষ্টি ও শিল্পরীতি— গোপিকানাথ রায়চৌধুরী
- ☐ কালের পুত্তলিকা— অরুণকুমার মুখোপাধ্যায়
- ☐ রবীন্দ্র সৃষ্টি সমীক্ষা— শ্রীকুমার বন্দ্যোপাধ্যায়
- ☐ সাহিত্যে ছোটগল্প— নারায়ণ গঙ্গোপাধ্যায়
- ☐ বাংলা উপন্যাসের কালান্তর— সরোজ বন্দ্যোপাধ্যায়
- ☐ বাংলা ছোটগল্প : প্রসঙ্গ ও প্রকরণ— বীরেন্দ্র দত্ত

## LCC(2)– BENGALI

(সাধারণ)

স্নাতক (কলা) সাধারণ বিভাগের সমস্ত শিক্ষার্থীকেই LCC(2) [MIL/Alternative English]- স্তরে

৬ ক্রেডিট করে মোট ১২ ক্রেডিটের দুটি কোর্স নির্বাচন করতে হবে

(যে সমস্ত স্নাতক (সাধারণ) পড়ুয়ারা Core Course হিসেবে বাংলা গ্রহণ করেছে তারাও LCC(2) পর্যায়ে MIL গুলির মধ্যে বাংলা বিকল্পটি গ্রহণ করতে পারে— সেই দিকটি বিবেচনার মধ্যে রেখেই নিচের কোর্স দুটি তৈরি করা হয়েছে।)

### BNG-G-LCC(2)-4-1-TH-TU

বাংলা ভাষা বিজ্ঞান, সাহিত্যের রূপভেদ ও কাব্য

উদ্দেশ্য : বি.এ. সাধারণ বিভাগের পড়ুয়াদের জন্য এই কোর্সটিতে বাংলা ভাষাতত্ত্ব, সাহিত্যের রূপভেদের পাশাপাশি মধুসূদন দত্তের কাব্যপাঠের মধ্য দিয়ে শিক্ষার্থীদের ভাষা এবং সাহিত্য সম্পর্কে প্রাথমিক ধারণা তৈরি হবে।

মডিউল -১ : বাংলা ভাষাবিজ্ঞান

	Class Hours		
	Th	Tu	IA Exam
বাংলা ভাষার শব্দভাণ্ডার	২৩	৬	১
বাংলা শব্দার্থ পরিবর্তনের ধারা			
বাংলাভাষার ধ্বনি পরিবর্তনের রীতি ও প্রকৃতি			

মডিউল-২ : সাহিত্যের রূপভেদ

মহাকাব্য, গীতিকবিতা	২৩	৬	১
ট্রাজেডি, কমেডি			
পৌরাণিক নাটক, ঐতিহাসিক নাটক ও সামাজিক নাটক			
রোমান্স ও উপন্যাস			
সামাজিক উপন্যাস ও ঐতিহাসিক উপন্যাস			
ছোটগল্পের সঙ্গে উপন্যাসের তুলনা			
প্রবন্ধ ও সাহিত্য সমালোচনা			

মডিউল-৩ : কাব্য

মেঘনাদবধ কাব্য— মাইকেল মধুসূদন দত্ত (প্রথম সর্গ)	২৩	৬	১
--	----	---	---

সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সাধারণ ভাষাবিজ্ঞান ও বাংলা ভাষা— রামেশ্বর শ’
- ☐ বাংলা ভাষার ব্যাকরণ ও তার ক্রমবিকাশ— নির্মল দাশ
- ☐ উচ্চতর বাংলা ব্যাকরণ— বামনদেব চক্রবর্তী
- ☐ মধুসূদনের কবি আত্মা ও কাব্যশিল্প— ক্ষেত্র গুপ্ত
- ☐ সাহিত্য সন্দর্শন— শ্রীশচন্দ্র দাস
- ☐ সাহিত্য ও সমালোচনার রূপরীতি— উজ্জ্বলকুমার মজুমদার
- ☐ সাহিত্য : রূপ-বিচিত্রা— অপূর্বকুমার রায়
- ☐ সাহিত্যের রূপরীতি ও অন্যান্য প্রসঙ্গ— কুন্তল চট্টোপাধ্যায়
- ☐ বাংলা সাহিত্যের রূপরীতি— শুম্ভসত্ত্ব বসু
- ☐ সাহিত্যকোষ : কথাসাহিত্য— অলোক রায়
- ☐ সাহিত্য বিচার : তত্ত্ব ও প্রয়োগ— বিমলকুমার মুখোপাধ্যায়

## BNG-G-LCC(2)-6-2-TH-TU

### সাময়িক পত্র ও কথাসাহিত্য

**উদ্দেশ্য :** এই কোর্সে আধুনিক বাঙালির চিন্তা চেতনার বাহক হিসেবে বাংলা সাময়িক পত্রের ভূমিকার কথা জানার পাশাপাশি পড়ুয়ারা উপন্যাস ও ছোটগল্পের রসাস্বাদন করতে পারবে।

#### মডিউল-১ : সাময়িক পত্র

	Class Hours		
	Th	Tu	IA Exam
দিগদর্শন, সমাচার দর্পন	২৩	৬	১
সংবাদ প্রভাকর, তত্ত্ববোধিনী পত্রিকা			
বঙ্গদর্শন, ভারতী			
সবুজপত্র			
কল্লোল, কালিকলম, প্রগতি			
পরিচয়, কবিতা			

#### মডিউল-২ : উপন্যাস

রজনী— বঙ্কিমচন্দ্র চট্টোপাধ্যায়	২৩	৬	১
----------------------------------	----	---	---

#### মডিউল-৩ : ছোটগল্প

একালের গল্প সঞ্জন (কলিকাতা বিশ্ববিদ্যালয় সংস্করণ) পাঠ্য গল্প : ছোটলোক— বনফুল চোর— জ্যোতিরিন্দ্র নন্দী রেকর্ড— নারায়ণ গঙ্গোপাধ্যায় অন্তঃসলিলা— সাবিত্রী রায় আদাব— সমরেশ বসু টোবাটেক সিং— সাদাত হোসেন মন্টো	২৩	৬	১
--	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাংলা সাময়িক পত্র— ব্রজেন্দনাথ বন্দ্যোপাধ্যায়
- ☐ বাংলা সাময়িকপত্রের ইতিবৃত্ত (১, ২)— সন্দীপ দত্ত
- ☐ বঙ্কিমচন্দ্র— সুবোধচন্দ্র সেনগুপ্ত
- ☐ বঙ্কিম সরণী— প্রমথনাথ বিশী
- ☐ বাংলা ছোটগল্প : প্রসঙ্গ ও প্রকরণ— বীরেন্দ্র দত্ত



## Discipline Specific Elective (DSE)– 6 Credit Each (সাধারণ বাংলা)

- ❑ স্নাতক (কলা) সাধারণ বিভাগের শিক্ষার্থীরা (যারা CC হিসেবে বাংলা গ্রহণ করবে) Discipline Specific Elective (DSE)-স্তরে পাঠ্য হিসেবে A- বর্গ থেকে যে-কোনো একটি পঞ্চম সেমেস্টারে এবং B- বর্গ থেকে যে-কোনো একটি ষষ্ঠ সেমেস্টারে নির্বাচন করবে।
- ❑ ৬ ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট DSE-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য বরাদ্দ। ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য এবং ১৫ নম্বর কোর্সভিত্তিক টিউটোরিয়াল-এর জন্য বরাদ্দ। বাকি ৬৫ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে। প্রতিটি সেমেস্টারে পনেরো সপ্তাহ করে ক্লাস হবে ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- ❑ ৬৫ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৪টি বোধমূলক এবং ১ নম্বরের ১৫টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে।

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	মডিউল-১ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৫	মডিউল-২ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৬	মডিউল-৩ থেকে একটি বোধমূলক প্রশ্ন। একটি বিকল্প থাকবে।	৫
৭	মডিউল-১, মডিউল-২ এবং মডিউল-৩ থেকে একটি করে প্রসঙ্গ/বিষয় নিয়ে টাকা-ধর্মী প্রশ্ন হবে। তিনটির মধ্যে যে-কোনো একটি লিখতে হবে।	৫
৮	প্রত্যেকটি মডিউল থেকে কমপক্ষে তিনটি করে প্রশ্ন নিয়ে মোট পনেরটি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ১৫

### BNG-G-DSE-A-5-1-TH-TU

#### বাংলার সমাজ ও সংস্কৃতির ইতিহাস

**উদ্দেশ্য :** বাংলা ভাষার উদ্ভবের সময়কাল থেকে আধুনিক কাল পর্যন্ত বাঙালি জাতির সাংস্কৃতিক বিকাশের গতিরেখার সঙ্গে শিক্ষার্থীদের পরিচয় ঘটানোই এই কোর্সের উদ্দেশ্য।

**মডিউল-১ :**

	Class Hours		
	Th	Tu	IA Exam
বাংলা ও বাঙালি জাতির ভৌগোলিক ও নৃতাত্ত্বিক পরিচয়	২৩	৬	১
বাংলার সমাজ কাঠামো ও অর্থনৈতিক ভিত্তি			
বাংলার রাজনৈতিক ইতিহাস			
বাংলার ধর্ম			
চৈতন্য-সংস্কৃতি			
বাঙালির সাংস্কৃতিক স্বরূপ			

## মডিউল-২

ঔপনিবেশিক আধুনিকতার অভিঘাত— শিক্ষায়, ধর্ম সংস্কারে ও মুক্ত চিন্তায়	২৩	৬	১
কৃষক আন্দোলন, নীল বিদ্রোহ, ফকির আন্দোলন			
ধর্ম, সমাজ ও শিক্ষা সংস্কারের উদ্দেশ্যে গঠিত সভা-সমিতি (১৯ শতক)			

## মডিউল-৩

বঙ্গভঙ্গ ও বয়কট-স্বদেশী আন্দোলন,	২৩	৬	১
প্রান্তবর্গ/দলিত জনগোষ্ঠীর জাগরণ			
বাঙালি মুসলমানের স্বতন্ত্র জাতিসত্তার সন্ধান			
দেশভাগ, উদ্বাস্তু সমস্যা ও ভাষা আন্দোলন			
খাদ্য আন্দোলন ও নকশাল আন্দোলন			

## সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাঙ্গালীর ইতিহাস— নীহাররঞ্জন রায়
- ☐ History of Medieval Bengal — রমেশচন্দ্র মজুমদার
- ☐ বাংলা দেশের ইতিহাস— রমেশচন্দ্র মজুমদার
- ☐ বাঙ্গালার ইতিহাস (অখণ্ড)— রাখালদাস বন্দ্যোপাধ্যায়
- ☐ বাঙ্গালীর সংস্কৃতি— সুনীতিকুমার চট্টোপাধ্যায়
- ☐ রামতনু লাহিড়ী ও তৎকালীন বঙ্গসমাজ— শিবনাথ শাস্ত্রী
- ☐ বাংলার ইতিহাস— সুভাষ মুখোপাধ্যায়
- ☐ সংস্কৃতির বিশ্বরূপ— গোপাল হালদার
- ☐ বাঙলা ও বাঙালীর বিবর্তন— অতুল সুর
- ☐ সংস্কৃতির রূপান্তর— গোপাল হালদার
- ☐ চৈতন্য-প্রসঙ্গ— বঙ্গীয় সাহিত্য পরিষদ প্রকাশিত
- ☐ বাংলার কাব্য— হুমায়ুন কবির
- ☐ ঔপনিবেশিক বাংলার সমাজ চিত্র— চিত্তরত্ন পালিত
- ☐ দেশ বিভাগ : পশ্চাৎ ও নেপথ্য কাহিনী— ভবানীপ্রসাদ চট্টোপাধ্যায়
- ☐ যুক্ত বাংলার শেষ অধ্যায়— কালীপদ বিশ্বাস
- ☐ পলাশি থেকে পার্টিশান— শেখর বন্দ্যোপাধ্যায়
- ☐ নীল বিদ্রোহ— পুলক চন্দ্র
- ☐ বাঙালির দর্শন— আমিনুল ইসলাম
- ☐ স্বাধীন ভারতের সাম্যবাদী আন্দোলন : রাজনীতি ও গতিপ্রকৃতি— শোভনলাল দত্তগুপ্ত
- ☐ সাহিত্য সমাজ ইতিহাস— পশ্চিমবঙ্গ ইতিহাস সংসদ প্রকাশিত
- ☐ বাংলার রেনেশাঁস— সুশোভন সরকার
- ☐ বাংলার নবজাগৃতি— বিনয় ঘোষ
- ☐ কলকাতা : ইতিহাসের দিনলিপি— নীরদবরণ হাজারা
- ☐ সংস্কৃতির ভাঙা সেতু— আখতারুজ্জামান ইলিয়াস
- ☐ শতাব্দীর প্রতিধ্বনি— অতুল সুর
- ☐ উত্তাল চল্লিশ : অসমাপ্ত বিপ্লব— অমলেন্দু সেনগুপ্ত
- ☐ জোয়ারভাটায় ষাট-সত্তর— অমলেন্দু সেনগুপ্ত
- ☐ হাজার বছরের বাঙালির সংস্কৃতি— গোলাম মুরশিদ

## BNG-G-DSE-A-5-2-TH-TU

### বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি

উদ্দেশ্য : সাহিত্যের পাঠ এবং আস্বাদনে কিশোরদের অভ্যাস তৈরি হয়ে ওঠে গোয়েন্দা গল্প, কল্পবিজ্ঞানের কাহিনি অথবা ভূতের গল্পের মধ্য দিয়ে। তাদের চেনা ক্ষেত্রকেই পড়ুয়ারা এখানে বিদ্যায়তনিক পাঠ শৃঙ্খলায় অধ্যয়ন করতে শিখবে।

#### মডিউল-১

	Class Hour		
	Th	Tu	IA Exam
শজারুর কাঁটা— শরদিন্দু বন্দ্যোপাধ্যায়	২৩	৬	১

#### মডিউল-২

শঙ্কু সমগ্র (আনন্দ পাব.)— সত্যজিৎ রায় পাঠ্য সমূহ : ব্যোমযাত্রীর ডায়েরি, প্রফেসর শঙ্কু ও ম্যাকাও, প্রফেসর শঙ্কু ও গোলক-রহস্য, প্রফেসর শঙ্কু ও রোবু, হিপনোজেন, মহাকাশের দূত, শঙ্কু ও আদিম মানুষ, শঙ্কু ও ফ্ল্যাঙ্কেনস্টাইন	২৩	৬	১
---	----	---	---

#### মডিউল-৩

সব ভুতুড়ে— লীলা মজুমদার	২৩	৬	১
--------------------------	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সত্যজিৎ রায়— পশ্চিমবঙ্গ বাংলা আকাদেমি
- ☐ এক দুর্লভ মানিক— অমিত্রসূদন ভট্টাচার্য
- ☐ ক্রাইম কাহিনীর কালক্রান্তি— সুকুমার সেন

## BNG-G-DSE-B-6-1-TH-TU

### দেশভাগ ও বাংলা সাহিত্য

**উদ্দেশ্য :** বাঙালি জাতির ইতিহাসে দেশভাগের একটি গভীরমূল এবং সুদূরপ্রসারী অভিঘাত রয়েছে। দেশভাগকে ঘিরে বাঙালির সামূহিক এবং ব্যক্তিক বিপন্নতা, বিপর্যয় এবং অসহায়ত্বের সাক্ষ্যবাহী নির্বাচিত কিছু সাহিত্যকে এখানে পাঠ্য করা হয়েছে।

#### মডিউল-১ : উপন্যাস

	Class Hours		
	Th	Tu	IA Exam
নীলকণ্ঠ পাখির খোঁজে— অতীন বন্দ্যোপাধ্যায়	২৩	৬	১

#### মডিউল-২ : ছোটগল্প

এপার গঙ্গা ওপার গঙ্গা— জ্যোতির্ময়ী দেবী গণনায়ক— সতীনাথ ভাদুড়ী ছেলেমানুষী— মানিক বন্দ্যোপাধ্যায় পালঙ্ক— নরেন্দ্রনাথ মিত্র ড্রেসিং টেবিল— সলিল চৌধুরী কবুতকন্যা— রমাপদ চৌধুরী রাজা আসে রাজা যায়— প্রফুল্ল রায় জটায়ু— দীপেন্দ্রনাথ বন্দ্যোপাধ্যায়	২৩	৬	১
---	----	---	---

#### মডিউল-৩ : কবিতা

পূব-পশ্চিম— অচিন্ত্যকুমার সেনগুপ্ত খুকু ও খোকা— অন্নদাশঙ্কর রায় ১৫ই আগস্ট ১৯৪৭—দীনেশ দাস জল দাও— বিষ্ণু দে পারাপার— সুভাষ মুখোপাধ্যায় বাংলা, হায় বাংলা— মঙ্গলাচরণ চট্টোপাধ্যায় তোমাকে বলেছিলাম— নীরেন্দ্রনাথ চক্রবর্তী দেশহীন — শঙ্খ ঘোষ ধাত্রী—সুনীল গঙ্গোপাধ্যায় সমরেন্দ্র সেনগুপ্ত —ভাষাদেশ	২৩	৬	১
--	----	---	---

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ বাংলা ছোটগল্পে দেশবিভাগ— সানজিদা আখতার
- ☐ ভূমিকা (রক্তমণির হারে গ্রন্থ)— দেবেশ রায়
- ☐ ভূমিকা (ভেদ-বিভেদ গ্রন্থ)— মানবেন্দ্র বন্দ্যোপাধ্যায়
- ☐ যুক্তবঙ্গের স্মৃতি— অন্নদাশঙ্কর রায়
- ☐ আমার জন্মভূমি /স্মৃতিময় বাংলাদেশ— ধনঞ্জয় দাশ
- ☐ ভাঙা বাংলা ও বাংলা সাহিত্য— অশ্রুকুমার শিকদার
- ☐ বাংলা উপন্যাসে দেশভাগ ও দেশত্যাগ— তারক সরকার
- ☐ দেশভাগ দেশত্যাগ— সন্দীপ বন্দ্যোপাধ্যায়
- ☐ যুক্ত বাংলার শেষ অধ্যায়— কালীপদ বিশ্বাস
- ☐ দেশ বিভাগ : পশ্চাৎ ও নেপথ্য কাহিনী— ভবানী প্রসাদ চট্টোপাধ্যায়
- ☐ বাংলা মধ্যবিত্তের আত্মবিকাশ— কামরুদ্দিন আহমেদ

- ☐ পূর্ব বাংলার সমাজ ও রাজনীতি— কামরুদ্দিন আহমেদ
- ☐ আমার দেখা রাজনীতির পঞ্চাশ বছর— আবুল মনসুর আহমেদ
- ☐ আমার জীবন ও বিভাগ পূর্ব বাংলার রাজনীতি— আবুল হাসিম
- ☐ কালের পুত্রলিকা— অরুণকুমার মুখোপাধ্যায়
- ☐ দেশভাগ : নির্বাসিতের আখ্যান— তপোধীর ভট্টাচার্য
- ☐ বিষাদবৃক্ষ— মিহির সেনগুপ্ত

## BNG-G-DSE-B-6-2-TH-TU

### লোকসংস্কৃতি ও লোকসাহিত্য

**উদ্দেশ্য :** বাঙালি এবং তার সংস্কৃতিকে জানতে গেলে আমাদের লোকসংস্কৃতি ও লোকসাহিত্যের পাঠ নেওয়া খুবই জরুরি। বাংলার সমৃদ্ধ লোক-ঐতিহ্যের থেকে নির্বাচিত কয়েকটি প্রসঙ্গই এখানে পড়ুয়াদের চর্চার জন্য রাখা হচ্ছে।

#### মডিউল-১

	Class Hour		
	Th	Tu	IA Exam
লোকসংস্কৃতি ও লোকসাহিত্যের সাধারণ পরিচয়	২৩	৬	১
টাইপ ও মোটিফ ইনডেক্স (বৈশিষ্ট্য ও প্রয়োগ শিক্ষার প্রাথমিক পাঠ)			
বাংলার ব্রত ও পার্বন (বিশেষ পাঠ : পুণ্যপুকুর, মাঘমন্ডল, সৈজুতি)			

#### মডিউল-২

লোকছড়া	২৩	৬	১
লোকনৃত্য (বিশেষ পাঠ : ছৌ, রায়বেশে, গম্ভীরা)			
ধাঁধা			

#### মডিউল-২

বাংলা প্রবাদ	২৩	৬	১
লোকগান (বিশেষ পাঠ : বাউল, ভাটিয়ালী, ভাওয়াইয়া)			
লোককথা			

#### সহায়ক গ্রন্থ (নির্বাচিত) :

- ☐ বাংলার ব্রত— অবনীন্দ্রনাথ ঠাকুর
- ☐ বাংলার লোক সাহিত্য— আশুতোষ ভট্টাচার্য
- ☐ লোকসংস্কৃতির সীমানা ও স্বরূপ— পল্লব সেনগুপ্ত
- ☐ ফোকলোর পরিচিতি ও পঠন-পাঠন— মযহারুল ইসলাম
- ☐ বাংলা প্রবাদ— সুশীলকুমার দে
- ☐ বাংলার ধাঁধার ভূমিকা— নির্মলেন্দু ভৌমিক
- ☐ বাংলা ছড়ার ভূমিকা— নির্মলেন্দু ভৌমিক
- ☐ বাংলা লোককথার টাইপ ও মোটিফ ইনডেক্স— দিব্যজ্যোতি মজুমদার
- ☐ লোক সংস্কৃতি পাঠের ভূমিকা— তুষার চট্টোপাধ্যায়
- ☐ বঙ্গীয় লোকসংস্কৃতিকোষ— বরুণ চক্রবর্তী
- ☐ বাংলা লোকসংগীত : ভাটিয়ালি গান— ওয়াকিল আহমেদ
- ☐ বাউল ফকির কথা— সুধীর চক্রবর্তী

# Skill Enhancement Course (SEC)– 2 Credits Each

(সাধারণ বাংলা)

- স্নাতক সাধারণ পাঠক্রমের শিক্ষার্থীরা (যারা CC হিসেবে বাংলা গ্রহণ করবে) 'Skill Enhancement Course (SEC)' স্তরে ৪ (২ × ২) ক্রেডিট-এর মোট ২টি কোর্স পড়বে। প্রদত্ত A- বর্গ থেকে যে-কোনো একটি কোর্স তৃতীয় অথবা পঞ্চম সেমিস্টারে এবং B- বর্গ থেকে যে-কোনো একটি কোর্স চতুর্থ অথবা ষষ্ঠ সেমিস্টারে পড়তে হবে। প্রতিটি সেমিস্টারে পনেরো সপ্তাহ করে ক্লাস হবে ধরে নিয়ে Class Hours/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- ২ ক্রেডিট-এর প্রতিটি কোর্সের পূর্ণমান ১০০। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট SEC-র ক্লাসে পড়ুয়ার উপস্থিতির জন্য এবং ১০ নম্বর কোর্সভিত্তিক ধারাবাহিক মূল্যায়ন বা ইন্টারন্যাশনাল অ্যাসেসমেন্ট-এর জন্য বরাদ্দ। বাকি ৮০ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট কর্তৃপক্ষের তত্ত্বাবধানে লিখিত পরীক্ষা নেওয়া হবে।
- ৮০ নম্বরের লিখিত পরীক্ষায় ১০ নম্বরের তিনটি ব্যাখ্যামূলক, ৫ নম্বরের ৬টি বোধমূলক এবং ১ নম্বরের ২০টি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্নের উত্তর দিতে হবে। নিচের তালিকায় প্রশ্নপত্রের ধারণা পাওয়া যাবে

প্রশ্ন নং	প্রশ্নের ধরন ও বিকল্প ও সংক্রান্ত নিয়ম	প্রশ্নের মান
১	মডিউল-১ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
২	মডিউল-২ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৩	মডিউল-৩ থেকে একটি ব্যাখ্যামূলক প্রশ্ন। একটি বিকল্প থাকবে।	১০
৪	প্রত্যেকটি মডিউল থেকে কমপক্ষে একটি করে প্রশ্ন নিয়ে মোট আটটি প্রশ্ন দেওয়া হবে। পরীক্ষার্থীকে যে-কোনো ছয়টি প্রশ্নের উত্তর দিতে হবে।	৫ × ৬
৫.	প্রত্যেকটি মডিউল থেকে কমপক্ষে চারটি করে প্রশ্ন নিয়ে মোট কুড়িটি সংক্ষিপ্ত উত্তরভিত্তিক/তথ্যমূলক প্রশ্ন দেওয়া হবে। এক্ষেত্রে কোনো বিকল্প থাকবে না।	১ × ২০

## BNG-G-SEC-A-3/5-1-TH

### মুদ্রণ ও প্রকাশনা

উদ্দেশ্য : বাংলা মুদ্রণ ও প্রকাশনা সংক্রান্ত সাধারণ জ্ঞানার্জন করবে পড়ুয়ারা।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
পাণ্ডুলিপি প্রস্তুতি	১০	১
বাংলা যুক্তাক্ষরের ধারণা		
সংগ্রহ-সম্পাদনা ও সংকলন সম্পর্কে ধারণা		
কভার, টাইটেল পেজ, গ্রন্থ/পত্রিকার পঞ্জিকরণ সংক্রান্ত ধারণা		

#### মডিউল-২

এম. এস. ওয়ার্ড, পেজ মেকার	১০	১
কোরেল ড্র, ইনডিজাইন		

#### মডিউল-৩

প্রুফ সংশোধন (দৃষ্টিহীন পড়ুয়াদের জন্য অশুষ্টি সংশোধন থাকবে)	১০	১
ছাপার প্রযুক্তি, স্টিচিং, বাইন্ডিং, মার্কেটিং সম্পর্কিত সাধারণ ধারণা		

### সহায়ক গ্রন্থ (নির্বাচিত)

- ❑ যখন ছাপাখানা এলো— শ্রীপাথ
- ❑ দুই শতকের বাংলা মুদ্রণ ও প্রকাশন— চিত্তরঞ্জন বন্দ্যোপাধ্যায় (সম্পাদিত)
- ❑ বাংলা পাণ্ডুলিপি পাঠ ও পরিক্রমা— ত্রিপুরা বসু
- ❑ মুদ্রণের সংস্কৃতি ও বাংলা বই— স্বপন চক্রবর্তী (সম্পাদিত)
- ❑ উনিশ শতকের বাংলা ছাপাখানা— আশিস খাস্তগীর
- ❑ গবেষণাপত্র : অনুসন্ধান ও রচনা— জগমোহন মুখোপাধ্যায়
- ❑ লেখক ও সম্পাদকের অভিধান— সুভাষ ভট্টাচার্য (সম্পাদিত)
- ❑ মাইক্রোসফট Micorsoft Office Power Point — বাপ্পি আশরাফ
- ❑ ডায়নামিক মেমরি কম্পিউটার কোর্স— দেবেন্দ্র সিং মিনহাস

## BNG-G-SEC-A-3/5-2-TH

### ব্যবহারিক বাংলা-১

**উদ্দেশ্য :** পরবর্তী জীবনে পেশা হিসেবে যে-সব পড়ুয়া নাটক অথবা সিনেমা-সিরিয়ালকে কিংবা আবৃত্তি শিল্পকে গ্রহণ করতে চাইবে, তারা এই সব বিষয়ের প্রাথমিক ধ্যানধারণা পাবে এই কোর্স থেকে।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
গল্পসূত্র থেকে কাহিনি নির্মাণ	১০	১
গল্প/উপন্যাস থেকে নাট্যরূপ/ চিত্রনাট্য নির্মাণ		

#### মডিউল-২

বাংলা ভাষার/শব্দের সঠিক উচ্চারণ	১০	১
ছন্দ সম্পর্কিত জ্ঞান		
আবৃত্তিচর্চা		

#### মডিউল-৩

সাহিত্য ও চলচ্চিত্র— পারস্পরিক সম্পর্ক	১০	১
বাংলা সাহিত্যের চলচ্চিত্রায়ণ		
বিশেষ পাঠ : ক্ষুধিত পাষণ, পথের পাঁচালী, বাড়ি থেকে পালিয়ে		

### সহায়ক গ্রন্থ (নির্বাচিত) :

- ❑ চলচ্চিত্রের অভিধান— ধীমান দাশগুপ্ত
- ❑ বিষয় চলচ্চিত্র— সত্যজিৎ রায়
- ❑ বাংলা চলচ্চিত্রের ইতিহাস— নির্মাল্য আচার্য ও দিব্যেন্দু পালিত (সম্পাদিত)
- ❑ রবীন্দ্রনাথের সিনেমা সিনেমার রবীন্দ্রনাথ— চণ্ডী মুখোপাধ্যায়
- ❑ মৃণাল সেনের ফিল্মযাত্রা— শিলাদিত্য সেন
- ❑ কবিতার ক্লাস— নীরেন্দ্রনাথ চক্রবর্তী
- ❑ বিষয় আবৃত্তি— অমিয় চট্টোপাধ্যায়, দেবদুলাল বন্দ্যোপাধ্যায়
- ❑ বাংলা সিনেমার ইতিকথা : দুই বাংলার চলচ্চিত্র (১৯০৩-২০১৪)— চণ্ডী মুখোপাধ্যায়
- ❑ চলচ্চিত্র : চিন্তাবীজ রবের ব্রেস (ভাষান্তর : সন্দীপন ভট্টাচার্য)
- ❑ চলচ্চিত্র মানুষ এবং আরো কিছু— ঋত্বিককুমার ঘটক
- ❑ সিনেমার ইতিবৃত্ত— পার্থ রাহা
- ❑ বাংলা বলো— পবিত্র সরকার
- ❑ কি লিখি কেন লিখি— নীরেন্দ্রনাথ চক্রবর্তী

## BNG-G-SEC-B-4/6-1-TH

### ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান

উদ্দেশ্য : শিক্ষার্থীদের জীবনের নানা প্রয়োজনকে সুষ্ঠুভাবে এবং নিয়মমাফিক সমাধা করতে সহায়তা করবে এই কোর্সটি।

#### মডিউল-১

	Class Hours	
	Th	IA Exam
সংবাদপত্রে অথবা ব্যক্তিগতভাবে প্রচারের লক্ষ্যে প্রতিবেদন রচনা	১০	১
চিঠিপত্র রচনা—বিভিন্ন প্রকার সহ		
কাল্পনিক সাক্ষাৎকার রচনা		

#### মডিউল-২

ছাপা মাধ্যম এবং বৈদ্যুতিন মাধ্যমের জন্য বিজ্ঞাপন রচনা	১০	১
অনুবাদের ভাষা ও শৈলী		
ইংরেজি থেকে বাংলা অনুবাদ		

#### মডিউল-৩

গবেষণার রীতি ও নির্মাণ পদ্ধতি, গবেষণার আদর্শ বিন্যাসক্রম	১০	১
তথ্য সংগ্রহ, উদ্ধৃতির প্রয়োগ, কপিরাইট আইন		
পাদটীকা/প্রাস্তটীকা/সূত্র নির্দেশ, গ্রন্থপঞ্জি ও নির্ঘণ্ট প্রণয়ন বিধি		

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ গণজ্ঞাপন : তত্ত্ব ও প্রয়োগে— পার্থ চট্টোপাধ্যায়
- ☐ সেকাল একালের সংবাদ পরিবেশনের ধারা ও বিচিত্র সংবাদ— বৈদ্যনাথ বন্দ্যোপাধ্যায়
- ☐ গবেষণাপত্র : অনুসন্ধান ও রচনা— জগমোহন মুখোপাধ্যায়



## BNG-G-SEC-B-4/6-2-TH

### ব্যবহারিক বাংলা-২

**উদ্দেশ্য :** যে-সব সাহিত্যরূপ পড়ুয়ারা পড়ছে/পড়েছে তা কীভাবে তৈরি হয়ে ওঠে, তার কলাকৌশলগুলি সম্পর্কে এখানে হাতে কলমে তাদের ধারণা দেওয়া হবে। তার সঙ্গে বানান এবং IPA ও রোমীয় লিপি সংক্রান্ত ব্যবহারিক জ্ঞানও দিতে চাওয়া হয়েছে এই কোর্সে।

#### মডিউল-১ : সৃজনশীল রচনা

	Class Hours	
	Th	IA Exam
গল্প রচনা (সামাজিক/পারিবারিক/ব্যক্তিক কোনো প্রসঙ্গ/বিষয় অবলম্বনে কমবেশি ৩০০ শব্দে গল্প লিখতে দেওয়া হবে)	১০	১
প্রবন্ধ রচনা (সামাজিক/পারিবারিক/ব্যক্তিক অথবা সাহিত্য বিষয়ক কোনো প্রসঙ্গ/বিষয় অবলম্বনে কমবেশি ৩০০ শব্দে প্রবন্ধ লিখতে দেওয়া হবে)		

#### মডিউল-২

বাংলা বানানের বিবর্তন সম্পর্কে সাধারণ ধারণা	১০	১
পশ্চিমবঙ্গ বাংলা আকাদেমির বানান বিধি		

#### মডিউল-৩

আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA)	১০	১
রোমীয় লিপি		

#### সহায়ক গ্রন্থ (নির্বাচিত)

- ☐ সাধারণ ভাষাবিজ্ঞান ও বাংলাভাষা— রামেশ্বর শ’
- ☐ কি লিখি কেন লিখি— নীরেন্দ্রনাথ চক্রবর্তী
- ☐ বাংলা বানান বিধি— পরেশচন্দ্র মজুমদার
- ☐ বাংলা বানান সংস্কার, সমস্যা ও সম্ভাবনা— পবিত্র সরকার

# কলিকাতা বিশ্ববিদ্যালয়

২০১৮

## স্নাতক পাঠ্যক্রম

(কলা, বিজ্ঞান ও বাণিজ্যসহ সমস্ত বিভাগের পড়ুয়াদের জন্য)

## Ability Enhancement Compulsory Course (AECC-1) MIL (Bengali)

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

## AECC-1 [MIL (Bengali)]–2 Credits

### BNG-AECC-1-1-TH

- স্নাতক কলা, বাণিজ্য, বিজ্ঞান বিভাগের যে-সমস্ত পড়ুয়া AECC-1 স্তরে MIL হিসেবে বাংলা বিকল্পটি গ্রহণ করবে তাদের জন্য প্রথম সেমেস্টারে ২ ক্রেডিটের এই কোর্সটি পাঠ্য।
- সেমেস্টারে মোট পনেরো সপ্তাহ ক্লাস হবে ধরে নিয়ে Class Hour/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- এই কোর্সটি ১০০ নম্বরের। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট ক্লাসে পড়ুয়ার উপস্থিতির জন্য এবং ১০ নম্বর কোর্সভিত্তিক আভ্যন্তর মূল্যায়নের জন্য বরাদ্দ থাকবে।
- অবশিষ্ট ৮০ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট দপ্তর পরীক্ষা নেবে। ৪টি মডিউল থেকে ১০টি করে ২ নম্বরের মোট ৪০টি MCQ ধর্মী প্রশ্ন হবে।

#### মডিউল-১ : প্রবন্ধ (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত ভাষাপাঠ সঙ্কলন-এ সংকলিত)

	Class Hours
পাঠ্য প্রবন্ধ : স্বদেশী সমাজ— রবীন্দ্রনাথ ঠাকুর বাঙালা ভাষা— স্বামী বিবেকানন্দ স্ত্রী জাতির অবনতি— বেগম রোকেয়া অপবিজ্ঞান— রাজশেখর বসু	৯

#### মডিউল-২ : ছোটগল্প (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত ভাষাপাঠ সঙ্কলন-এ সংকলিত)

পাঠ্যগল্প : রবীন্দ্রনাথ ঠাকুর লিখিত পোস্টমাস্টার, ছুটি, জীবিত ও মৃত এবং বলাই	৯
--	---

#### মডিউল-৩ : কবিতা (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত ভাষাপাঠ সঙ্কলন-এ সংকলিত)

নৈবেদ্য— রবীন্দ্রনাথ ঠাকুর পাঠ্য : বৈরাগ্য সাধনে মুক্তি সে আমার নয় (৩০), শতাব্দীর সূর্য আজি রক্ত মেঘ-মাঝে (৬৪), স্বার্থের সমাপ্তি অপঘাতে (৬৫), তোমার ন্যায়ের দণ্ড প্রত্যেকের করে (৭০), চিত্ত যেথা ভয় শূন্য উচ্চ যেথা শির (৭২), শক্তিদন্ত স্বার্থলোভ মারীর মতন (৯২)	৬
--	---

#### মডিউল-৪ : পরিভাষা

কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত ভাষাপাঠ সঙ্কলন-এ নির্ধারিত ২৫০টি পরিভাষা	৬
--	---



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
✓ 11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

## **B.A. Honours in Education (EDCH)**

### **Choice Based Credit System**

In the 3 years B.A. Honours in Education there will be 6 Semesters. The curriculum consists of 14 Core Courses (CC), 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC) and 4 Discipline Specific Elective (DSE) courses and 4 Generic Elective (GE) Courses. Each course is of 100 Marks.

**TH stands for Theory Hour, TU for Tutorial Hour and P for Practical Hour**

**Semester 1 = 400 Marks (20 Credit)**

**Semester 2 = 400 Marks (20 Credit)**

**Semester 3 = 500 Marks (26 Credit)**

**Semester 4 = 500 Marks (26 Credit)**

**Semester 5 = 400 Marks (24 Credit)**

**Semester 6 = 400 Marks (24 Credit)**

---

**Total: 2600 Marks (140 Credits)**

### **Distribution of marks:- (Out of 100)**

**Attendance = 10 Marks**

**Internal Assessment =10 Marks**

**Tutorial = 15 Marks**

**Subjective Exam = 65 Marks**

---

**Total = 100 Marks**

<b>Semester wise Courses</b>							
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Core Courses (CC)</b>		<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>
<b>Elective Courses</b>	<b>Generic Elective (GE)</b>	1	1	1	1		
	<b>Discipline Elective</b>					<b>2</b>	<b>2</b>
<b>Ability Enhancement</b>	<b>Language / Environment</b>	1	1				
	<b>Skill Based Electives</b>			<b>1</b>	<b>1</b>		
<b>Total Credit</b>		<b>20</b>	<b>20</b>	<b>26</b>	<b>26</b>	<b>24</b>	<b>24</b>

**Core Courses (CC):-** 14 for Honours Course.

**Discipline Specific Elective (DSE):-** 4 for Honours Courses. Elective Courses offered under the main Discipline/Subject of study is referred to as Discipline Specific Elective. The list provided under this category is suggestive in nature and each University has complete freedom to suggest their own papers under this category.

**Generic Elective (GE):-** 4 for Honours courses. An elective course chosen from an unrelated Discipline/Subject.

**Ability Enhancement Courses (AEC):-** It may be of two kinds.

- Ability Enhancement Compulsory Courses (AECC)
- Skill Enhancement Courses (SEC)

AECC courses are the courses based upon the content that leads to knowledge enhancement.

- i) Environmental Studies and
- ii) Communicative English/Hindi/MIL  
(These are mandatory for all Disciplines)

SEC courses are value based and/or skill based. 2 for Honours Course.

**Tutorial:-** Topics are to be selected within the particular paper.

## **SEMESTER – 1**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC - 1	6	100	5 – 1 – 0
Core Course	CC - 2	6	100	5 – 1 – 0
Elective - Generic	GE - 1	6	100	
AECC	AECC - 1	2	100	
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

## **SEMESTER – 2**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC – 3	6	100	5 – 1 – 0
Core Course	CC - 4	6	100	5 – 1 – 0
Elective - Generic	GE – 2	6	100	
AECC	AECC - 2	2	100	
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

### **SEMESTER – 3**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC – 5	6	100	5 – 1 – 0
Core Course	CC - 6	6	100	5 – 1 – 0
Core Course	CC - 7	6	100	5 – 1 – 0
Elective - Generic	GE – 3	6	100	
Skill Enhancement	SEC – A	2	100	2 – 0 – 0
		<b>26</b>	<b>500</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

### **SEMESTER – 4**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC – 8	6	100	5 – 1 – 0
Core Course	CC – 9	6	100	5 – 1 – 0
Core Course	CC – 10	6	100	5 – 1 – 0
Elective - Generic	GE – 4	6	100	
Skill Enhancement	SEC – B	2	100	2 – 0 – 0
		<b>26</b>	<b>500</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**



## **SEMESTER – 5**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC – 11	6	100	5 – 1 – 0
Core Course	CC – 12	6	100	4 – 0 – 2
Discipline Specific Elective	DSE – A	6	100	5 – 1 – 0
	DSE – B	6	100	5 – 1 – 0
		<b>24</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

## **SEMESTER – 6**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course	CC – 13	6	100	4 – 0 – 2
Core Course	CC – 14	6	100	5 – 1 – 0
Discipline Specific Elective	DSE – A	6	100	5 – 1 – 0
	DSE – B	6	100	5 – 1 – 0
		<b>24</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

**Course Title:-**

<b>Semester - 1</b>	<b>CC – 1</b> = Introduction to Education
	<b>CC – 2</b> = History of Indian Education

<b>Semester - 2</b>	<b>CC – 3</b> = Psychological Foundation of Education
	<b>CC – 4</b> = Philosophical Foundation of Education

<b>Semester - 3</b>	<b>CC – 5</b> = Sociological Foundation of Education
	<b>CC – 6</b> = Educational Organization, Management and Planning
	<b>CC – 7</b> = Guidance and Counselling

<b>Semester - 4</b>	<b>CC – 8</b> = Technology in Education
	<b>CC – 9</b> = Curriculum Studies
	<b>CC – 10</b> = Inclusive Education

<b>Semester - 5</b>	<b>CC – 11</b> = Measurement and Evaluation in Education
	<b>CC – 12</b> = Statistics in Education

<b>Semester - 6</b>	<b>CC – 13</b> = Psychology of Adjustment
	<b>CC – 14</b> = Basic Concept of Educational Research

<b>Semester - 3</b>	<b>SEC – A</b> = Communication Skills /Skill for Democratic Citizenship
---------------------	---

<b>Semester - 4</b>	<b>SEC – B</b> = Teaching Skill / Life Skill Education
---------------------	--

<b>Semester - 1</b>	<b>AECC – 1</b> = English/Hindi/MIL
<b>Semester - 2</b>	<b>AECC – 2</b> = Environmental Studies

**DSE – A    Any one from the following    (For 5<sup>th</sup> Semester)**

- ❖ Peace and Value Education
- ❖ Educational Thought of Great Educators

**DSE – A    Any one from the following    (For 6<sup>th</sup> Semester)**

- ❖ Gender and Society
- ❖ Population Education

**DSE – B    Any one from the following    (For 5<sup>th</sup> Semester)**

- ❖ Teacher Education
- ❖ Open and Distance Learning

**DSE – B    Any one from the following    (For 6<sup>th</sup> Semester)**

- ❖ Human Rights Education
- ❖ Women Education

**CC – 1 (Semester 1)**  
**Introduction to Education**

**Objectives:**

- To understand the meaning, nature, scope and aims of education.
- To explain the factors of education and their interrelationship.
- To become aware of different agencies of education that influence education.
- To be acquainted with the concept of child-centricism and play-way in education

**Unit- I = Concept of Education**

- Narrow and broader concept of education
- Meaning, nature and scope of education.
- Aims of education – individual, social, vocational and democratic.
- Aims of modern education with special reference to Delor's Commission.

**Unit- 2 = Factors of Education**

- Child / learner: influence of heredity and environment on the learner
- Teacher: qualities and duties of a good teacher.
- Curriculum- concept and types.
- Co-curricular activities: meaning, values and significance.
- Educational institutions: informal, formal and non-formal, their interrelation.

**Unit- 3 = Agencies of Education**

- Home
- School
- State
- Mass-media- television, radio, cinema and newspaper

**Unit- 4 = Child Centricism and Play-way in Education**

- Concept of child centricism in education
- Characteristics and significance of child centricism in education
- Concept of play and work.
- Characteristics of play way in Education, Kindergarten, Montessori, Project method.

**CC – 2 (Semester 1)**  
**History of Indian Education**

**Objectives:**

- To be acquainted with the salient features of education in India during ancient and medieval times
- To be acquainted with the development of education in British India
- To be acquainted with the significant points of selected education commissions & national policy of education in independent India

**Unit: 1 = Education in India during ancient and medieval period**

- Vedic (aim, curriculum, teaching method, teacher-pupil relation)
- Brahmanic ( ” )
- Buddhistic ( ” )
- Islamic ( ” )

**Unit: 2 = Education in India during British period (1800-1853)**

- Sreerampore trio and their contribution in the field of education
- Charter Act, Oriental-occidental controversy
- Macaulay Minute and Bentinck's resolution
- Adam's report

**Unit: 3 = Education in India during British period (1854-1946)**

- Woods Despatch, Hunter Commission
- Curzon policy regarding primary, secondary and higher education, National education movement (cause and effect)
- Basic education (concept and development)
- Sadler Commission

**Unit: 4 = Education in India after independence**

- Radhakrishnan Commission (aim, curriculum of higher education, rural university)
- Mudaliar Commission (aim, structure and curriculum of secondary education)
- Kothari Commission (aim, structure and curriculum of primary and secondary education)
- National Policy of Education, 1986, POA 1992.

**CC – 3 (Semester 2)**  
**Psychological Foundation of Education**

**Objectives:**

- To understand the meaning of Psychology and be acquainted with its different aspects.
- To know the patterns of different aspects of human development and relate this knowledge with education.
- To be acquainted with the cognitive approach of development and thus to understand the process and factors of cognition.

**Unit: 1 = Relation between Psychology and Education**

- Meaning and definition of Psychology
- Meaning and definition of Education
- Relation between Psychology and education
- Nature, scope and significance of educational psychology.

**Unit: 2 = Stages and types of human development and their educational significance.**

- Piaget's cognitive development theory
- Erikson's psycho-social development theory
- Kohlberg's moral development theory
- Vygotsky's social development theory and Bandura's Social Learning Theory

**Unit: 3 = Learning: concept and theories**

- Concept and characteristics of learning
- Theories: Connectionism (Trial and error, classical, operant conditioning)
- Insightful learning
- Memorization and Forgetting: Process of memorization, causes of forgetting and economical ways of improving memorization

**Unit: 4 = Intelligence**

- Concept of intelligence
- Theories of Intelligence by Spearman, Thorndike and Guilford
- Types and uses of intelligence tests
- Concept of Emotional Intelligence and E.Q

**CC-4 (Semester 2)**  
**Philosophical Foundation of Education**

**Objectives:**

- To understand the meaning and relation of philosophy and education
- To understand the importance of philosophy in education
- To be acquainted with the Indian schools of philosophy and their impact on education
- To be acquainted with the western schools of philosophy and their impact on education
- To develop an understanding of philosophy for development of humanity

**Unit 1 = Concept of educational philosophy**

- Meaning of philosophy
- Etymological meaning of education
- Relation between philosophy and education
- Importance of philosophy in education

**Unit 2 = Indian schools of philosophy**

- Vedic school - Sankhya
- Vedic school - Yoga
- Non-vedic School - Buddhism
- Non-vedic School - Jainism

**Unit 3 = Western schools of philosophy**

- Idealism
- Naturalism
- Pragmatism
- Realism

**Unit 4 = Philosophy for development of humanity**

- Education and development of values
- Education for national integration
- Education for international understanding
- Education for promotion of peace and harmony

**CC – 5 (Semester 3)**  
**Sociological Foundation of Education**

**Objectives:**

- To understand the relation between Sociology and Education . nature, and scope of Sociology of education.
- To explain the concept of Social Groups and Socialization process.
- To enable the students to understand the concept of Social change and Social interaction in education
- To become aware of social Communication in Education

**Unit-I = Introductory Concept of Sociology of Education**

- Meaning and definition of Sociology of Education
- Relation between Sociology and Education
- Nature of Sociology of Education
- Scope of Sociology of Education

**Unit-2 = Social Groups**

- Social Groups : meaning and definition
- Types of Social groups – Primary, Secondary and Tertiary
- Socialization Process: Concept
- Role of the family and school in Socialization process

**Unit-3 = Social Change and Education**

- Concept of Social Change
- Interrelation between Social change and Education
- Social stratification and Social Mobility.
- Social interaction Process

**Unit-4 = Social Communication in Education**

- Social Communication : Concept
- Informal agencies of social communication
- Inter relation between Culture, religion and Education.
- Inter relation between Technology, Economy and Education.



**CC – 6 (Semester 3)**  
**Educational Organization, Management and Planning**

**Objectives:**

- To develop the concept of an ideal organization in educational institutions.
- To know the essential functions of educational management.
- To understand the different aspects of planning,

**Unit: 1 = Organization and Management**

- Concept of organization
- Concept of management
- Concept of educational organization
- Concept of school organization

**Unit: 2 = Educational organization**

- Meaning of school plant
- Elements of school plant ( concepts only)
- Features of library and time-table
- Features of school medical services, workshop, computer laboratory.

**Unit: 3 = Educational Management**

- Meaning of educational management
- Objectives of educational management
- Types of educational management
- Significance of educational management

**Unit:4 = Educational Planning**

- Meaning of educational planning
- Aims and objectives of educational planning
- Steps of educational planning
- Types and significance of educational planning

**CC – 7 (Semester 3)**  
**Guidance and Counselling**

**Objectives:-**

- To know the concept of guidance
- To know various types of Guidance
- To Know the basic concept of Counselling
- To find out the basic data necessary for Guidance

**Unit I = Guidance – Meaning, Functions, Need**

- Guidance – Meaning, Definitions and Functions
- Individual Guidance – Meaning, advantages and disadvantages
- Group Guidance – Meaning and Advantages and disadvantages
- Need for guidance in secondary schools and requisites of a good school guidance programme.

**Unit 2 = Guidance - Educational, Vocational, Personal**

- Educational Guidance- Meaning, Function at different stages of Education
- Vocational Guidance- Meaning, Function at different stages of Education
- Personal Guidance- Meaning, Importance for the Adolescents

**Unit 3 = Counselling – Meaning, Techniques, Types**

- Counselling - – Meaning, importance and Scope
- Techniques of Counselling- Directive, Non-Directive, Eclectic
- Individual and Group Counselling –Meaning , Importance

**Unit 4 = Basic data necessary for Guidance**

- Tools for collecting information on pupil: Intelligence: Concept and Test, Personality: Concept and Test, Aptitude: Concept and Test
- Cumulative Record Card
- Anecdotal Record Card

**CC-8 (Semester 4)**  
**Technology in Education**

**Objectives:**

- To develop an understanding of educational technology
- To be acquainted with the system approach
- To develop an understanding of the use of computer in education and communication
- To get acquainted with the instructional techniques and different models of teaching
- To develop an understanding of ICT & e-learning.

**Unit 1 = Introductory concept**

- Concept of Technology
- Need and scope of educational technology
- System approach- concept and need
- Classification and components of system approach

**Unit 2 = Computer in education and communication**

- Computer and its role in education
- Basic concept of hardware and software
- Computer network and internet- its role in education
- Communication and classroom interactions- concept, element and process

**Unit 3 = Instructional techniques**

- Mass instructional technique- characteristics and types
- Personalised instructional techniques- characteristics and types
- Difference in teaching and instruction
- Models of teaching- concept, components and significance

**Unit 4 = ICT & e-learning**

- Meaning and concept of ICT, e-learning
- Nature and characteristics of e-learning
- ICT integration in teaching learning, massive open online course (MOOC)
- Different approaches- Project based learning, co-operative learning and collaborative learning

**CC – 9 (Semester 4)**  
**Curriculum Studies**

**Objectives:**

- To develop an understanding about concept, nature, types and major approaches of curriculum
- To understand the relation among curriculum, pedagogy and assessment
- To develop an understanding about curriculum development and national curriculum framework, 2005
- To get acquainted with content selection and selected theories in this regard
- To develop an understanding of evaluation & reform of curriculum

**Unit 1 = Introductory concept**

- Meaning, nature, scope and functions of curriculum
- Bases of curriculum: philosophical, psychological and sociological
- Major approaches to curriculum - behavioural, managerial, system, humanistic
- Types of curriculum - knowledge, experience & activity based

**Unit 2 = Content selection**

- Determinants of content selection - perspectives of knowledge, culture & need
- Curriculum and institution - instructional objectives
- Revised Bloom's taxonomy
- Bruner's theory of instruction

**Unit 3 = Curriculum development**

- Principles of curriculum construction
- Learner centred curriculum framework - concept, factors & characteristics
- Curriculum development - need, planning
- NCF, 2005

**Unit 4 = Evaluation & reform of curriculum**

- Concept & significance of curriculum evaluation
- Approaches to curriculum evaluation - formative & summative
- Models of evaluation - Stufflebeam & Taylor
- Curriculum reform - factors & obstacles

## **CC – 10 (Semester 4)**

### **Inclusive Education**

#### **Objectives:-**

- Understand the meaning of Inclusion and exclusion
- Know the types of exclusion and their causes
- Know how to bring about inclusion in different spheres

#### **Unit: 1 = Inclusion Overview**

- Meaning of Inclusion and Inclusive Society
- Exclusion and Inclusion: Conceptual overview
- Obstacles/barriers in Inclusion
- Elements necessary for creating an inclusive society

#### **Unit: 2 = Differently Abled**

- Concept of Impairment, Disability and Handicap
- Types of disabilities- Orthopaedic, Visual, Auditory, Cerebral Palsy, Intellectual, Autism, Learning Disability (only definition and their specific problems)
- General causes of disabilities
- Role of school and society in creating a barrier free environment

#### **Unit: 3 = Socially Disabled**

- Concept of SC, ST and OBC groups.
- Concept of Gender, and sexuality
- Causes of social exclusion
- Understanding social inclusion: role of education

#### **Unit: 4 = Educational Reforms for Inclusive Society.**

- Building an Inclusive school: desired changes in System, Structure, Practice and Culture,
- Education for a multicultural society.
- Education for peaceful co-existence
- Role of Informal agencies (like mass media etc) in building an inclusive society

**CC -11 (Semester 5)**  
**Evaluation and Measurement in Education**

**Objectives:-**

- To develop understanding of the concepts of measurement and evaluation in education.
- To be acquainted with the process of Evaluation
- To be acquainted with different types of measuring instruments and their uses.
- To develop understanding of the concepts of validity and reliability and their importance in educational measurement.
- To be acquainted with the principles of test construction.

**Unit: 1 = Measurement and Evaluation in Education**

- Educational Measurement and Evaluation : Concept
- Scope and Need of Educational Measurement and Evaluation
- Relation between Measurement, Assessment and Evaluation.
- Scales of Measurement- Nominal, Ordinal, Interval and Ratio.

**Unit: 2 = Evaluation Process**

- Evaluation Process: (Formative and Summative)
- Types and steps of evaluation
- Norm-Referenced Test and Criterion Referenced Test.
- Grading and Credit system.

**Unit: 3 = Tools and Techniques of Evaluation**

- Concept of Tools and Techniques
- Testing tools
  - i) Educational : Essay type and Objective type, Written , Oral.
  - ii) Psychological: Personality Test- Types, Rorschach Ink Blot Test , Interest Test- Types , Kuder Richardson interest inventory, Intelligence Test - Types of intelligence tests , Stanford – Binet Scale,
- Non testing tools – Cumulative Record Card, Portfolio
- Techniques:
  - i) Self reporting : Interview , Questionnaire
  - ii) Observation.

**Unit: 4 = Criteria of a Good Tool and its Construction**

- Characteristics of a good tool
  - (i) Objectivity- Concept
  - (ii) Reliability- Concept, methods of determining reliability
  - (iii) Validity- Concept and types
  - (iv) Norms- Meaning & types
  - (v) Usability -Concept
- Steps for construction & standardization of Achievement test

**CC – 12 (Semester 5)**  
**Statistics In Education**

**Objectives:**

- To develop the concept of statistics and to develop skill in analyzing descriptive measures
- To be acquainted with the concept of Normal Probability Curve and its uses in education
- To develop a concept of measures of relationship
- To develop the ability to organize relevant educational data and to represent educational data through graphs and to develop skill in analyzing and displaying data

**Unit: 1 = Concept of Statistics and Descriptive Statistics**

- Concept of Statistics. Uses of Statistics in Education, Organization and presentation of data – tabulation, graphical representation( Frequency Polygon, Histogram, Ogive, Pie)
- Meaning & measures of Central Tendency- Arithmetic Mean, Median and Mode-their Properties, Calculation and Application.
- Meaning & measures of Variability- Range, Standard Deviation and Quartile Deviation - their Properties, Calculation and Application
- Percentile and Percentile Rank - Definition, Calculation, Application, Graphical Determination

**Unit: 2 = Normal Distribution and Derived Score**

- Concept of Normal Distribution- Properties
- Uses of NPC in Education
- Divergence from Normality- Skewness and Kurtosis.( Concept and Calculation)
- Derived Scores- Z-Score, T Score and Standard Score (Concept, Calculation and Uses).

**Unit: 3 = Measure of Relationship**

- Bi-variate Distribution- Concept and types of Linear Correlation
- Scatter Diagram (only Concept)
- Uses of Correlation
- Computation of Co-efficient of Correlation by Rank Difference method and Product Moment method, Interpretation of Co-efficient of Correlation

**Unit:4 = Statistics (Practical)**

- Students are expected to collect relevant data (Bi-variate educational data) from their college or neighbourhood ( minimum sample size must be 50) with the objective of
  - describing the nature and characteristics of the two distributions,
  - comparing two distributions and
  - finding association between two sets of data by applying the following:

**Method: i)** Tabulation of data

ii) Determination of central tendencies and variability (standard deviation)

iii) Graphical Representation- Bar graph, Frequency Polygon, Cumulative frequency graph.

iv) Determination of the type of association between two sets of data by drawing scatter diagram

**CC – 13 (Semester 6)**  
**Psychology of Adjustment**

**Objectives:**

- To understand the concept of adjustment, maladjustment and some commonly found problem behavior.
- To know the multi-axial classification of mental disorders.
- To be aware about different coping strategies for stressful situation.
- To know the administration, scoring and interpretation of the psychological tests.

**Unit: 1 = Adjustment, Maladjustment and Problem Behaviour**

- Concept of adjustment, adjustment and adaptability
- Psychodynamic Concept of adjustment, criteria of good adjustment
- Concept of maladjustment. Causes of maladjustment, aggressiveness, delinquency, substance abuse

**Unit: 2 = Multi-axial Classification of Mental Disorders**

- DSM – 5 : Section 1, Section II and Section III
- Brief outline of Schizophrenia, anxiety disorder, depressive disorder and personality disorder
- Psychoanalysis, behavior therapy, cognitive therapy, and humanistic therapy.(Concept only)

**Unit: 3 = Coping Strategies for Stressful Situation**

- Stress and Stressors
- Personal and environmental stress
- Coping strategies for stress

**Unit: 4 = Administration, Scoring and Interpretation of the following Tests (Practical)**

- KNPI(Kundu Neurotic Personality Inventory)
- KIEI (Kundu Introversion Extroversion Inventory)
- Effect of Learning material on memorization



**CC – 14 (Semester 6)**  
**Basic Concept of Educational Research**

**Objectives:-**

- Have a concept of educational research
- Learn about the various steps to be followed for conducting a research
- Learn how to write a research proposal and review research papers

**Unit: 1 = Concept of Educational Research**

- Definition, meaning and concept of research
- Educational research and its characteristics
- Types of Educational Research
- Problems, difficulties and ethics

**Unit: 2 = Basic elements of educational research**

- Literature review
- Problem selection
- Objectives, Research question and Hypothesis
- Tools of Data collection –types

**Unit: 3 = Data collection procedure**

- Sampling –concept and definition
- Types of sampling- Probability and non-probability
- Data reporting- Descriptive and Inferential ( basic statistical procedure that come under each)
- Referencing and Bibliography

**Unit: 4 = Tutorial (Project/Term Paper centric)**

- Writing Research proposal (Within 1000 words) - Plan of Work– steps and review (atleast5)

**SEC – A (Semester – 3)**  
**Communication Skill**

**Objectives:**

- To understand the basic elements of Communication
- To acquire Listening Skills
- To acquire Speaking Skills
- To acquire Reading and Writing Skills

**Unit: 1 = Introduction to Communication**

- Meaning, Nature and types of communication
- Principles of communication
- Process of communication: Sender, encoding, recipient, decoding and feedback
- Barriers of effective communication

**Unit: 2 = Listening Skills**

- Principles of listening skills
- Types of listeners
- Barriers to listening

**Unit: 3 = Speaking Skills**

- Verbal and non-verbal communication
- Public speaking: Extempore
- Group discussion

**Unit: 4 = Reading and Writing Skills**

- Previewing, skimming, and scanning
- Development of skills for correct pronunciation, reading and comprehension
- Sentence formation and punctuation

**SEC – A (Semester – 3)**  
**Skill for Democratic Citizenship**

**Objectives:-**

- Have an idea about their duties as citizens
- Have an idea about their rights as citizens
- Have an idea about child violence and child rights
- Have an idea about domestic violence and domestic rights

**Unit 1: Rights and duties in Indian Constitution**

- Democratic rights
- Fundamental Rights
- Duties of citizenship

**Unit 2 = Protection of Children**

- Child protection - concept and need.
- Child Rights – concept, classification and need
- Legal actions –POCSO

**Unit 3 = Domestic Harmony**

- Domestic violence – definition and types
- Protection of Women from Domestic Violence Act, 2005 – basic features
- Protection of males in DVA 2005

**Unit 4 = Role of Education (Term Paper/Project Paper)**

- Awareness programmes- rallies, debates etc
- Mass media
- Seminars and workshops
- ( Any one may be taken up by the college and recorded by the students on any one of the above topics)

## **SEC – B (Semester – 4)**

### **Teaching Skill**

#### **Objectives:-**

- To know the basic concept of Teaching
- To know the Types of Teaching
- To understand the Skills of Teaching
- To learn the Concept of Learning Design (LD)

#### **Unit: 1 = Understanding Teaching**

- Concept and definition of Teaching
- Nature of teaching and characteristic factors affecting teaching
- Relation between teaching and training

#### **Unit: 2 = Types of Teaching (Concept and Characteristics)**

- Micro-teaching and Micro lesson
- Simulated teaching
- Integrated teaching

#### **Unit: 3 = Skills of Teaching (Basic Concept)**

- Nature and definition of skills of teaching
- Developing teaching skills: Introducing a lesson, Questioning, Use of teaching aids, Illustration and Reinforcement
- Phases of teaching: Pre-active, Inter-active, Post-active

#### **Unit: 4 = Learning Design (LD)**

- Concept and importance of learning design in teaching
- Steps of learning design
- Qualities of good learning design

**SEC – B (Semester – 4)**  
**Life Skill Education**

**Objectives:**

- To understand the meaning of life skills.
- To be acquainted with the different types of life skills.
- To find the ways in which individual's personality can be built through the development of these life skills.

**Unit: 1 = Concept of Life Skills**

- Meaning and concept of life skills.
- Origin of life skill in education.
- Development of the concept of life skills.
- Definitions and interpretation.

**Unit: 2 = Classification of life skills**

- Generic Life skills-
  - a) Survival skills
  - b) Negotiating skills
  - c) Coping skills
- Problem specific skills
- Skills for area specific development.

**Unit:3 = Training and Techniques**

- Concept of training and techniques for life skill education
- Types of training
- Stages of life skill education

**Unit:4 = Life skills for leadership training**

- Definition of leadership training
- Styles of leadership training
- Functions of leadership training
- Training of leadership through personality building and like skills

**DSE – A (Semester – 5)**  
**Peace and Value Education**

**Objectives:-**

- To know the concept of peace education
- To understand peace and non-violence
- To develop the concept of value education
- To understand peace, value and conflict resolution

**Unit: 1 = Peace Education**

- Concept and Scope of Peace Education
- Aims of peace Education
- Role of Teachers in Promoting Peace education
- NCFTE 2009 on Peace Education

**Unit: 2 = Peace and Non Violence**

- Factors of Violence
- Role of Peace for Non-Violence
- Gandhian principle of Non Violence
- Role of Educational Institutional in Promoting Peace education

**Unit: 3 = Value Education**

- Meaning , Definition, Concept of Value Education
- Classification of Values and Sources of Values
- Need For Value education in the 21<sup>st</sup> Century
- Fostering Values – Role of Home, School and Society.

**Unit: 4 = Peace, Value and Conflict Resolution**

- Bases of conflict
- Role of Value Education in resolving conflict

**DSE – A (Semester – 5)**  
**Educational Thought of Great Educators**

**Objectives:-**

- To develop an understanding of educational ideas of Indian and Western Educators
- To understand pedagogical concepts given by Indian and Western educational thinkers

**Unit:1 = Western Educators(Part 1)**

- Plato
- Rousseau
- Montessori

**Unit:2 = Western Educators(Part 2)**

- Pestalozzi
- Dewey
- Ivan Illich

**Unit: 3 = Indian Educators (Part 1)**

- Vivekananda
- Rabindranath
- Gandhiji

**Unit: 4 = Indian Educators (Part 2)**

- Radhakrisnan
- Begum Rokeya
- Sister Nivedita

**DSE – A (Semester – 6)**  
**Gender and Society**

**Objectives:**

- To understand the basic terms, concepts used in gender studies.
- To understand the gender discrimination in construction and dissemination of knowledge.
- To develop an awareness and sensitivity.

**Unit: 1 = Gender Concepts**

- Definition of Gender and difference with sex
- Gender Dynamics: Gender identity; Gender role and gender stereotype
- Social Construction of Gender

**Unit: 2 = Gender Socialization**

- Childhood, socialization and gender biases in the family and school
- Social Differentiation among women in educational context by caste, tribe, religion and region
- Gender discrimination in the management of the school and education system.

**Unit: 3 = Gender roles**

- Gender Roles and Relationships Matrix
- Gender based division and Valuation of Work
- Exploring Attitudes towards Gender

**Unit: 4 = Gender inequality in the schools**

- Gender inequality in the structure of knowledge
- Presentation of gender in the development of curriculum and text books.
- Dynamics of gender in the classroom in reference to girl friendly school, co-education and single sex schooling.



**DSE – A (Semester – 6)**  
**Population Education**

**Objectives:-**

- To know the concept of Population Education
- To understand Population growth and its impact and responsibilities
- To understand population education and role of school

**Unit: 1 = Concept of Population Education**

- Meaning and Objectives of Population Education
- Factors influencing Population --sociological, Economic, Political, Biological and Psychological.
- Concepts Related to Population Education- Birth Rate, Death Rate, Fertility, Infant Mortality, Morbidity and Migration.
- Need for Population Education

**Unit : 2 = Population Growth and its Impact**

- Quality of life-concept and meaning
- Human Resource Development (concept)
- Population Education programmes in India
- Problems of Population Education and its Suggestive Measures

**Unit : 3 = Population Growth and Responsibilities**

- Size of Family.
- Role and responsibilities of family members.
- Female Education and Status.
- Growth of Population and Environment

**Unit : 4 = Population Education and school**

- Scope of population education in schools,
- Teacher role in creating awareness of population problems
- Role of Mass media – (Newspapers, Radio, T.V)
- Role of youth in Population Education

## **DSE – B (Semester – 5)**

### **Teacher Education**

#### **Objectives:**

- To understand the basic concept of teacher education.
- To explain the historical perspective and development of teacher education in India.
- To enable the students to understand the Role of the different agencies in teacher education:
- To make an idea about Some Courses for preparation of teacher

#### **Unit: 1 = Basic concept of teacher education.**

- Concept and meaning of teacher education
- Scope of Teacher Education
- Aims and objectives of Education at Elementary, Secondary and College level.
- Teacher training Vs Teacher education

#### **Unit: 2 = Development of teacher education in India**

- Historical perspective of development of teacher education in India
- Recommendations of Kothari Commission
- Recommendations of National Policy on Education regarding teacher education.
- Present System of teacher education in India.

#### **Unit: 3 = Role of the different agencies in teacher education**

- University
- NCTE
- NCERT
- NUEPA

#### **Unit: 4 = Some Courses for preparation of teacher**

- Pre service teacher education
- In service teacher education
- Orientation and Refresher courses

**DSE – B (Semester – 5)**  
**Open and Distance Learning**

**Objectives:**

- To be acquainted with the concept of open and distance education
- To become aware of the modes and strategies of open and distance education
- To understand the relationship among non-formal, correspondence, distance and open education
- To be aware of the present status and role of multi-media in open and distance education
- To know about the different agencies, problems and remedies of open and distance education in India

**Unit: 1 = Concept of open and distance education**

- Meaning and definition of open and distance education
- Objectives and characteristics of open and distance education
- Merits and demerits of open and distance education

**Unit: 2 = Strategies of open and distance education**

- Mode and strategies of open education
- Mode and strategies of distance education
- Relationship among non-formal, correspondence, distance and open education

**Unit: 3 = Status and role of multi-media in open and distance education**

- Present status of open education in India
- Present status of distance education in India
- Role of multi-media in open and distance education

**Unit: 4 = Agencies, problems and remedies of open and distance education in India**

- Agencies of open and distance education
- Problems of open and distance education
- Measures for strengthening open and distance education in India

**DSE – B (Semester – 6)**  
**Human Rights Education**

**Objectives:-**

- To know the basic concept of human rights
- To know the role of United Nations and human rights
- To understand enforcement mechanism in India
- To know the role of advocacy groups

**Unit:1 = Basic Concept of Human Rights**

- Nature and concept of Human Rights
- Human Values – Dignity, liberty, equality, justice, unity in diversity
- Meaning and significance of Human Rights Education

**Unit: 2 = United Nations and Human rights**

- Brief history of human rights – National and International perspectives
- Universal Declaration of human rights in brief
- United Nations and Human rights – duties and limitations

**Unit: 3 = Human Rights – Enforcement Mechanism in India**

- Human Rights Act – 1993
- Human Rights Commission – role and objectives
- Judicial organs – Role of Supreme court and High court in brief

**Unit:4 = Role of Advocacy Groups**

- Role of educational institutions
- Role of press and media
- Role of NGOs.

## **DSE – B (Semester – 6)**

### **Women Education**

#### **Objectives:-**

- To know the historical perspectives of Women Education
- To know the Policy Perspectives and Committees and Commissions on Women Education
- To know the role of Indian thinkers towards Women Education
- To identify major constraints of Women Education and Women Empowerment.

#### **Unit: 1 = Historical Perspectives of Women Education**

- Synoptic view of women education through the ages: Vedic, Brahmanic, Medieval Period
- Contribution of Missionaries
- Role of British Govt.

#### **Unit: 2 = Policy Perspective, Committee and Commission on Women Education**

- Constitutional provision, NPE -1968, 1986, 1992, POA-1992
- Radhakrishnan, Mudaliar and Kothari Commission
- Durgabai Deshmukh Committee, Hansraj Mehta Committee and Bhaktabatsalam Committee

#### **Unit: 3 = Role of Indian Thinkers in promoting Women Education**

- Rammohan Roy
- Vidyasagar

#### **Unit: 4 = Major Constraints of Women Education and Women Empowerment**

- Social – Psychological
- Political – Economical
- Role of women empowerment in modern society (in brief.)

**B.A. Education, General (EDCG)**  
**Choice Based Credit System**

In the 3 years B.A. Program in Education there will be 6 Semesters. The curriculum consists of 12 Core Courses (CC), of which 4 core courses are to be taken from Discipline 1 (DSC – 1), 4 core courses are to be taken from Discipline 2 (DSC -2), LC( C1 – English courses, two papers, and C2 – MIL courses, two papers), 2 Ability Enhancement Compulsory Courses like Communicative English/Hindi/MIL and Environmental Studies, 2 Generic Elective courses, 2 courses from 2 subjects, Skill Enhancement Courses (SEC) and 2 Discipline Specific Elective (DSE) courses from Discipline 1 and 2 such from Discipline 2 are to be taken. Each paper is of 100 Marks. **TH stands for Lecture Hour, TU for Tutorial Hour and P for Practical Hour.**

**Semester 1 = 400 Marks (20 Credit)**

**Semester 2 = 400 Marks (20 Credit)**

**Semester 3 = 400 Marks (20 Credit)**

**Semester 4 = 400 Marks (20 Credit)**

**Semester 5 = 400 Marks (20 Credit)**

**Semester 6 = 400 Marks (20 Credit)**

---

**Total: 2400 Marks (120 Credits)**

Semester wise Courses							
		1	2	3	4	5	6
Core Courses (CC)	Discipline - 1	CC – 1	CC –2	CC – 3	CC – 4		
	Discipline - 2	CC – 1	CC – 2	CC – 3	CC – 4		
	Language (LCC)			C1 English (1)	C2 MIL (1)	C1 English (2)	C2 MIL (2)
Elective Courses	Generic Elective	GE - 1	GE - 2				
	Discipline Specific					DSE – A (DSC – 1)	DSE – B (DSC – 1)
						DSE – A (DSC – 2)	DSE – B (DSC – 2)
Ability Enhancement Compulsory Course		AECC - 1	AECC - 2				
Skill Enhancement Course (SEC)				SEC – A	SEC – B	SEC – A	SEC – B
Total Credit		20	20	20	20	20	20

**Core:-** 2 different subjects, Discipline 1 and Discipline 2

**Discipline 1:-** In the Subject.

**Discipline 2:-** Any subject other than Discipline 1

**GE:-** A Subject other than Discipline 1 and Discipline 2 and study two papers in Semester 1 & 2.

**DSE:-** 2 chosen disciplines for semester 5 and 6.

**SEC:=** Value based/skill based.

**Language (LCC):-** C1 = English 1 and English 2, C2 = MIL 1 and MIL 2

**AECC – 1:-** Communicative English/Hindi/Modern Indian Language

**AECC – 2:-** Environmental Studies

**Tutorial:-** Topics are to be selected from the particular paper

**Distribution of marks:- (Out of 100):-**

Attendance	= 10 Marks
Internal Assessment	=10 Marks
Tutorial	= 15 Marks
Subjective Exam	= 65 Marks
-----	
Total	= 100 Marks

## **SEMESTER – 1**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course (CC)	CC - 1 (Discipline – 1 )	6	100	5 - 1 - 0
Core Course (CC)	CC – 1 (Discipline – 2)	6	100	
Generic Elective	GE - 1	6	100	
AECC - 1	Communicative English/Hindi//MIL	2	100	
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

## **SEMESTER – 2**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course (CC)	CC – 2 Discipline – 1)	6	100	5 - 1 - 0
Core Course (CC)	CC – 2 (Discipline – 2)	6	100	
Generic Elective	GE – 2	6	100	
AECC - 2	Environmental Studies	2	100	
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**



### **SEMESTER – 3**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course (CC)	CC – 3 (Discipline – 1)	6	100	5 – 1 - 0
Core Course (CC)	CC – 3 (Discipline – 2)	6	100	
LCC	LCC1 English (1)	6	100	
Skill Enhancement	SEC – A	2	100	2 - 0 – 0
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

### **SEMESTER – 4**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Core Course (CC)	CC – 4 (Discipline – 1)	6	100	5 – 1 - 0
Core Course (CC)	CC – 4 (Discipline – 2)	6	100	
LCC	LCC2 - MIL (1)	6	100	
Skill Enhancement	SEC – B	2	100	2 – 0 – 0
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

## **SEMESTER – 5**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Discipline Specific (A)	DSC-1	6	100	5 – 1 – 0
Discipline Specific (A)	DSC-2	6	100	
LCC	LCC1 English (2)	6	100	
Skill Enhancement	SEC – A	2	100	2 – 0 – 0
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

## **SEMESTER – 6**

<b>Course Code</b>	<b>Course Type</b>	<b>Credit</b>	<b>Marks</b>	<b>TH – TU - P</b>
Discipline Specific (B)	DSC-1	6	100	5 – 1 – 0
Discipline Specific (B)	DSC-2	6	100	
LCC	LCC2 - MIL (2)	6	100	
Skill Enhancement	SEC – B	2	100	2 – 0 – 0
		<b>20</b>	<b>400</b>	

**1 credit = 1 hour class; Per week = 6 hours/6 credit**

**Course Title:=**

<b>Semester - 1</b>	Introduction to Education
<b>Semester - 2</b>	Psychological Foundation of Education
<b>Semester – 3</b>	Sociological Foundation of Education
<b>Semester - 4</b>	Inclusive Education

-----

**DSE – A = Any one from the following two**      **(FOR SEMESTER – 5)**

- ❖ Peace and Value Education
- ❖ Educational Thought of Great Educators

**DSE – B = Any one from the following two**      **(FOR SEMESTER – 6)**

- ❖ Human Rights Education
- ❖ Women Education

-----

<b>SEC – A</b>	<ul style="list-style-type: none"><li>• Communication Skills</li><li>• Skill for Democratic Citizenship</li></ul>	<b>Semester – 3 / 5</b>
<b>SEC – B</b>	<ul style="list-style-type: none"><li>• Teaching Skill</li><li>• Life Skill Education</li></ul>	<b>Semester – 4 / 6</b>

## **CC– 1/GE – 1 (Semester – 1)**

### **Introduction to Education**

#### **Objectives:**

- To understand the meaning, nature, scope and aims of education.
- To explain the factors of education and their interrelationship.
- To become aware of different agencies of education that influence education.
- To be acquainted with the concept of child-centricism and play-way in education

#### **Unit- I = Concept of Education**

- Narrow and broader concept of education
- Meaning, nature and scope of education.
- Aims of education – individual, social, vocational and democratic.
- Aims of modern education with special reference to Delor's Commission.

#### **Unit- 2 = Factors of Education**

- Child / learner: influence of heredity and environment on the learner
- Teacher: qualities and duties of a good teacher.
- Curriculum- concept and types.
- Co-curricular activities: meaning, values and significance.
- Educational institutions: informal, formal and non-formal, their interrelation.

#### **Unit- 3 = Agencies of Education**

- Home
- School
- State
- Mass-media- television, radio, cinema and newspaper

#### **Unit- 4 = Child Centricism and Play-way in Education**

- Concept of child centricism in education
- Characteristics and significance of child centricism in education
- Concept of play and work.
- Characteristics of play way in Education, Kindergarten, Montessori, Project method.

**CC – 2/GE – 2 (Semester – 2)**  
**Psychological Foundation of Education**

**Objectives:**

- To understand the meaning of Psychology and be acquainted with its different aspects.
- To know the patterns of different aspects of human development and relate this knowledge with education.
- To be acquainted with the cognitive approach of development and thus to understand the process and factors of cognition.

**Unit: 1 = Relation between Psychology and Education**

- Meaning and definition of Psychology
- Meaning and definition of Education
- Relation between Psychology and education
- Nature, scope and significance of educational psychology.

**Unit: 2 = Stages and types of human development and their educational significance.**

- Piaget's cognitive development theory
- Erikson's psycho-social development theory
- Kohlberg's moral development theory
- Vygotsky's social development theory and Bandura's Social Learning Theory

**Unit: 3 = Learning: concept and theories**

- Concept and characteristics of learning
- Theories: Connectionism (Trial and error, classical, operant)
- Insightful learning
- Memorization and Forgetting: Process of memorization, causes of forgetting and economical ways of improving memorization

**Unit: 4 = Intelligence**

- Concept of intelligence
- Theories of Spearman, Thorndike and Guilford
- Types and uses of intelligence tests
- Concept of Emotional Intelligence and E.Q

**CC – 3/GE – 3 (Semester – 3)**  
**Sociological Foundation of Education**

**Objectives:**

- To understand the relation between Sociology and Education . nature, and scope of Sociology of education.
- To explain the concept of Social Groups and Socialization process.
- To enable the students to understand the concept of Social change and Social interaction in education
- To become aware of social Communication in Education

**Unit-I = Introductory Concept of Sociology of Education**

- Meaning and definition of Sociology of Education
- Relation between Sociology and Education
- Nature of Sociology of Education
- Scope of Sociology of Education

**Unit-2 = Social Groups**

- Social Groups : meaning and definition
- Types of Social groups – Primary, Secondary and Tertiary
- Socialization Process: Concept
- Role of the family and school in Socialization process

**Unit-3 = Social Change and Education**

- Concept of Social Change
- Interrelation between Social change and Education
- Social stratification and Social Mobility.
- Social interaction Process

**Unit-4 = Social Communication in Education**

- Social Communication : Concept
- Informal agencies of social communication
- Inter relation between Culture, religion and Education.
- Inter relation between Technology, Economy and Education.

**CC– 4/GE – 4 (Semester – 4)**  
**Inclusive Education**

**Objectives:-**

- Understand the meaning of Inclusion and exclusion
- Know the types of exclusion and their causes
- Know how to bring about inclusion in different spheres

**Unit: 1 = Inclusion Overview**

- Meaning of Inclusion and Inclusive Society
- Exclusion and Inclusion: Conceptual overview
- Obstacles/barriers in Inclusion
- Elements necessary for creating an inclusive society

**Unit: 2 = Differently Abled**

- Concept of Impairment, Disability and Handicap
- Types of disabilities- Orthopaedic, Visual, Auditory, Cerebral Palsy, Intellectual, Autism, Learning Disability (only definition and their specific problems)
- General causes of disabilities
- Role of school and society in creating a barrier free environment

**Unit: 3 = Socially Disabled**

- Concept of SC, ST and OBC groups.
- Concept of Gender, and sexuality
- Causes of social exclusion
- Understanding social inclusion: role of education

**Unit: 4 = Educational Reforms for Inclusive Society.**

- Building an Inclusive school: desired changes in System, Structure, Practice and Culture,
- Education for a multicultural society,
- Education for peaceful co-existence
- Role of Informal agencies (like mass media etc) in building an inclusive society

**DSE–A (Semester – 5)**  
**Peace and Value Education**

**Objectives:-**

- To know the concept of peace education
- To understand peace and non-violence
- To develop the concept of value education
- To understand peace, value and conflict resolution

**Unit: 1 = Peace Education**

- Concept and Scope of Peace Education
- Aims of peace Education
- Role of Teachers in Promoting Peace education
- NCFTE 2009 on Peace Education

**Unit: 2 = Peace and Non Violence**

- Factors of Violence
- Role of Peace for Non-Violence
- Gandhian principle of Non Violence
- Role of Educational Institutional in Promoting Peace education

**Unit: 3 = Value Education**

- Meaning , Definition, Concept of Value Education
- Classification of Values and Sources of Values
- Need For Value education in the 21<sup>st</sup> Century
- Fostering Values – Role of Home, School and Society.

**Unit: 4 = Peace, Value and Conflict Resolution**

- Bases of conflict
- Role of Value Education in resolving conflict



**DSE–A (Semester – 5)**  
**Educational Thought of Great Educators**

**Objectives:-**

- To develop an understanding of educational ideas of Indian and Western Educators
- To understand pedagogical concepts given by Indian and Western educational thinkers

**Unit: 1 = Western Educators (Part 1)**

- Plato
- Rousseau
- Montessori

**Unit: 2 = Western Educators (Part 2)**

- Pestalozzi
- Dewey
- Ivan Illich

**Unit: 3 = Indian Educators (Part 1)**

- Vivekananda
- Rabindranath
- Gandhiji

**Unit: 4 = Indian Educators (Part 2)**

- Radhakrisnan
- Begum Rokeya
- Sister Nivedita

**DSE–B (Semester – 6)**  
**Human Rights Education**

**Objectives:-**

- To know the basic concept of human rights
- To know the role of United Nations and human rights
- To understand enforcement mechanism in India
- To know the role of advocacy groups

**Unit:1 = Basic Concept of Human Rights**

- Nature and concept of Human Rights
- Human Values – Dignity, liberty, equality, justice, unity in diversity
- Meaning and significance of Human Rights Education

**Unit: 2 = United Nations and Human rights**

- Brief history of human rights – National and International perspectives
- Universal Declaration of human rights in brief
- United Nations and Human rights – duties and limitations

**Unit: 3 = Human Rights – Enforcement Mechanism in India**

- Human Rights Act – 1993
- Human Rights Commission – role and objectives
- Judicial organs – Role of Supreme court and High court (in brief)

**Unit: 4 = Role of Advocacy Groups**

- Role of educational institutions
- Role of press and media
- Role of NGOs.

**DSE–B (Semester – 6)**  
**Women Education**

**Objectives:-**

- To know the historical perspectives of Women Education
- To know the Policy Perspectives and Committees and Commissions on Women Education
- To know the role of Indian thinkers towards Women Education
- To identify major constraints of Women Education and Women Empowerment.

**Unit: 1 = Historical Perspectives of Women Education**

- Synoptic view of women education through the ages: Vedic, Brahmanic, Medieval Period
- Contribution of Missionaries
- Role of British Govt.

**Unit: 2 = Policy Perspective, Committee and Commission on Women Education**

- Constitutional provision, NPE -1968, 1986, 1992, POA-1992
- Radhakrisnan, Mudaliar and Kothari Commission
- Durgabai Deshmukh Committee, Hansraj Mehta Committee and Bhaktabatsalam Committee

**Unit: 3 = Role of Indian Thinkers in promoting Women Education**

- Rammohan Roy
- Vidyasagar

**Unit: 4 = Major Constraints of Women Education and Women Empowerment**

- Social – Psychological
- Political – Economical
- Role of women empowerment in modern society in brief.

**SEC-A (Semester – 3 / 5)**  
**Communication Skill**

**Objectives:**

- To understand the basic elements of Communication
- To acquire Listening Skills
- To acquire Speaking Skills
- To acquire Reading and Writing Skills

**Unit: 1 = Introduction to Communication**

- Meaning, Nature and types of communication
- Principles of communication
- Process of communication: Sender, encoding, recipient, decoding and feedback
- Barriers of effective communication

**Unit: 2 = Listening Skills**

- Principles of listening skills
- Types of listeners
- Barriers to listening

**Unit: 3 = Speaking Skills**

- Verbal and non-verbal communication
- Public speaking: Extempore
- Group discussion

**Unit: 4 = Reading and Writing Skills**

- Previewing, skimming, and scanning
- Development of skills for correct pronunciation, reading and comprehension
- Sentence formation and punctuation

**SEC–A (Semester – 3 / 5)**  
**Skill for Democratic Citizenship**

**Objectives:-**

- Have an idea about their duties as citizens
- Have an idea about their rights as citizens
- Have an idea about child violence and child rights
- Have an idea about domestic violence and domestic rights

**Unit 1: Rights and duties in Indian Constitution**

- Democratic rights
- Fundamental Rights
- Duties of citizenship

**Unit 2 = Protection of Children**

- Child protection - concept and need.
- Child Rights – concept, classification and need
- Legal actions –POCSO

**Unit 3 = Domestic Harmony**

- Domestic violence – definition and types
- Protection of Women from Domestic Violence Act, 2005 – basic features
- Protection of males in DVA 2005

**Unit 4 = Role of Education (Term Paper/Project Paper)**

- Awareness programmes- rallies, debates etc
- Mass media
- Seminars and workshops
- ( Any one may be taken up by the college and recorded by the students on any one of the above topics)

**SEC–B (Semester – 4 / 6)**  
**Teaching Skill**

**Objectives:-**

- To know the basic concept of Teaching
- To know the Types of Teaching
- To understand the Skills of Teaching
- To learn the Concept of Learning Design (LD)

**Unit: 1 = Understanding Teaching**

- Concept and definition of Teaching
- Nature of teaching and characteristic factors affecting teaching
- Relation between teaching and training

**Unit: 2 = Types of Teaching (Concept and Characteristics)**

- Micro-teaching and Micro lesson
- Simulated teaching
- Integrated teaching

**Unit: 3 = Skills of Teaching (Basic Concept)**

- Nature and definition of skills of teaching
- Developing teaching skills: Introducing a lesson, Questioning, Use of teaching aids, Illustration and Reinforcement
- Phases of teaching: Pre-active, Inter-active, Post-active

**Unit: 4 = Learning Design (LD)**

- Concept and importance of learning design in teaching
- Steps of learning design
- Qualities of good learning design

**SEC–B (Semester – 4 / 6)**  
**Life Skill Education**

**Objectives:**

- To understand the meaning of life skills.
- To be acquainted with the different types of life skills.
- To find the ways in which individual's personality can be built through the development of these life skills.

**Unit: 1 = Concept of Life Skills**

- Meaning and concept of life skills.
- Origin of life skill in education.
- Development of the concept of life skills.
- Definitions and interpretation.

**Unit: 2 = Classification of life skills**

- Generic Life skills-
  - a) Survival skills
  - b) Negotiating skills
  - c) Coping skills
- Problem specific skills
- Skills for area specific development.

**Unit:3 = Training and Techniques**

- Concept of training and techniques for life skill education
- Types of training
- Stages of life skill education

**Unit:4 = Life skills for leadership training**

- Definition of leadership training
- Styles of leadership training
- Functions of leadership training
- Training of leadership through personality building and like skills



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar



# UNIVERSITY OF CALCUTTA

## CBCS SYLLABUS FOR UG ENGLISH (HONS)

CORE COURSES (CC) – 14 COURSES, 6 CREDITS PER COURSE

DISCIPLINE SPECIFIC ELECTIVE (DSE) –4 COURSES (out of 8), 6 CREDITS PER COURSE

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC) – 2 COURSES, 2 CREDITS PER COURSE

SKILL ENHANCEMENT COURSE (SEC) – 2 COURSES (out of 4), 2 CREDITS PER COURSE

### COURSE NAMES:

CC1 – HISTORY OF LITERATURE AND PHILOLOGY

CC2 –EUROPEAN CLASSICAL LITERATURE

CC3 –INDIAN WRITING IN ENGLISH

CC4 –BRITISH POETRY AND DRAMA (14<sup>TH</sup> – 17<sup>TH</sup> CENTURY)

CC5 –AMERICAN LITERATURE

CC6 –POPULAR LITERATURE

CC7 –BRITISH POETRY AND DRAMA (17<sup>TH</sup> – 18<sup>TH</sup> CENTURY)

CC8 –BRITISH LITERATURE (18<sup>TH</sup> CENTURY)

CC9 –BRITISH ROMANTIC LITERATURE

CC10 –19<sup>TH</sup> CENTURY BRITISH LITERATURE

CC11 – WOMEN'S WRITING

CC12 – EARLY 20<sup>TH</sup> CENTURY BRITISH LITERATURE

CC13 –MODERN EUROPEAN DRAMA

CC14 –POSTCOLONIAL LITERATURE

DSE (ANY TWO FROM DSE-A AND ANY TWO FROM DSE-B)

DSE-A1 –MODERN INDIAN WRITING IN ENGLISH TRANSLATION

DSE-A2 –LITERARY THEORY AND LITERARY CRITICISM

DSE-A3–PARTITION LITERATURE

DSE-A4 –MEDIA AND COMMUNICATION STUDIES

DSE-B1– LITERARY TYPES, RHETORIC AND PROSODY

DSE-B2–CONTEMPORARY INDIA: WOMEN AND EMPOWERMENT

DSE-B3–AUTOBIOGRAPHY

DSE-B4 – TEXT AND PERFORMANCES

AECC1 – COMMUNICATIVE ENGLISH OR MIL

AECC2 – ENVIRONMENT STUDY

SEC (ANY ONE FROM SEC-A AND ANY ONE FROM SEC-B)

SEC-A1 – TRANSLATION STUDIES

SEC-A2 –BUSINESS COMMUNICATION

SEC-B1 – CREATIVE WRITING

SEC-B2 - ACADEMIC WRITING AND COMPOSITION

## **COURSE STRUCTURE**

**SEMESTER 1:** CC1, CC2, AECC1 (Communicative English/MIL), GE1 (FROM OTHER SUBJECT)

**SEMESTER 2:** CC3, CC4, AECC2 (ENVS), GE2 (FROM OTHER SUBJECT)

**SEMESTER 3:** CC5, CC6, CC7, SEC-A, GE3 (FROM OTHER SUBJECT)

**SEMESTER 4:** CC8, CC9, CC10, SEC-B, GE4 (FROM OTHER SUBJECT)

**SEMESTER 5:** CC11, CC12, DSE-A(1 or 2), DSE-B(1 or 2)

**SEMESTER 6:** CC13, CC14, DSE-A(3 or 4), DSE-B(3 or 4)

### **COURSE DETAILS**

FOR ALL 14 CORE COURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65

Tutorial – 15

Internal – 10

Attendance – 10

CC1 (SEMESTER 1, CODE –ENG-A-CC-1-1-TH/TU)  
HISTORY OF LITERATURE AND PHILOLOGY - 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Group A: History of Literature

Section 1:

Unit A –Old English Heroic Poetry, Old English Prose and Chaucer

Unit B – Elizabethan Sonnets, University Wits and Ben Jonson

Unit C–Restoration Comedy of Manners and Eighteenth Century  
Novels

Section 2:

Unit D – Pre-Romantic Poetry and Romantic Non-fiction Prose

Unit E–Victorian Novel and the Pre-Raphaelites

Unit F–Modern Novel: Joseph Conrad, Virginia Woolf, James Joyce

Modern Poetry: T.S. Eliot, W.B. Yeats, Dylan Thomas

Modern Drama: Samuel Beckett, Harold Pinter, John  
Osborne

End Semester Question Pattern:

Objective 5 marks from Section 1

One question of 10 marks from Section 1 (out of 3, 1 from each unit)

One question of 5 marks from Section 1 (out of 3, 1 from each unit)

Objective 5 marks from Section 2

One question of 10 marks from Section 2 (out of 3, 1 from each unit)

One question of 5 marks from Section 2 (out of 3, 1 from each unit)

Suggested Readings:

1. Andrew Sanders: *The Short Oxford History of English Literature*
2. Edward Albert: *History of English Literature*
3. Michael Alexander: *A History of English Literature*
4. G.M. Trevelyan: *English Social History*
5. Bibhash Choudhury: *English Social and Cultural History*

Group B: Philology

Section 1: Latin Influence, Scandinavian Influence, French Influence, Americanism

Section 2: Consonant Shift and Word Formation Processes (Shortening, Back-formation, Derivations), Short Notes (Hybridism, Monosyllabism, Free & Fixed Compounds, Malapropism, ing-formation, Johnsonese)

End Semester Question Pattern:

One question of 10 marks from Section 1 (out of three)

One question of 10 marks out of two, and one question of 5 marks out of two from Section 2

Suggested Readings:

1. Otto Jespersen: *Growth and Structure of the English Language* (Chapters 4, 5, 6, 8, 10)
2. C.L. Wren: *The English Language* (Chapters 6 & 7)
3. A.C. Baugh: *A History of English Language*
4. C.L. Barber: *The Story of Language*

CC2 (SEMESTER 1, CODE – ENG-A-CC-1-2-TH/TU)  
EUROPEAN CLASSICAL LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Group A: Social and intellectual background

Group B:

Homer, *The Iliad* (Books I and II) translated by E.V. Rieu

Sophocles, *Oedipus the King*, in *The Three Theban Plays*, translated by Robert Fagles

Group C:

Ovid, Selections from *Metamorphosis*, 'Bacchus' (Book III)

Plautus, *Pot of Gold*, translated by E.F. Watling OR

Horace, *Satires*, I: IV in Horace: *Satires and Epistles* and Persius, translated Niall Rudd, Penguin, 2005.

End Semester Question Pattern:

Objective – 5 marks (from Group B and Group C)

Two questions of 15 marks (one from each text) from Group B (out of four, two from each text)

Two questions of 15 marks (one from each text) from Group C (out of four, two from each text)

Suggested Readings:

1. S.H. Butcher, *Aristotle's Theory of Poetry and Fine Art*, New Delhi: Kalyani Publishers
2. *Aristotle/Horace/Longinus: Classical Literary Criticism*, Translated with an Introduction by T.S. Dorsch, London: Penguin Books

CC3 (SEMESTER 2, CODE – ENG-A-CC-2-3-TH/TU)  
INDIAN WRITING IN ENGLISH: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Poetry

Henry Louis Vivian Derozio, 'To India, My Native Land'

Toru Dutt, 'Our Casuarina Tree'

Kamala Das, 'Introduction'

A.K. Ramanujan, 'River'

Nissim Ezekiel, 'Enterprise'

Jayanta Mahapatra, 'Dawn at Puri'

Novel

Bankimchandra Chattopadhyay: *Rajmohan's Wife*

Drama

Mahesh Dattani, *Bravely Fought the Queen*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks each from poetry (out of four)

One question of 15 marks from novel (out of two)  
One question of 15 marks from drama (out of two)

Suggested Readings:

1. Raja Rao, Foreword to *Kanthapura* (New Delhi: OUP, 1989) pp. v–vi.
2. Salman Rushdie, 'Commonwealth Literature does not exist', in *Imaginary Homelands* (London: Granta Books, 1991) pp. 61–70.
3. Meenakshi Mukherjee, 'Divided by a Common Language', in *The Perishable Empire* (New Delhi: OUP, 2000) pp.187–203.
4. Bruce King, 'Introduction', in *Modern Indian Poetry in English* (New Delhi: OUP, 2nd edn, 2005) pp. 1–10
5. Arvind Krishna Mehrotra, *A Concise History of Indian Writing in English*, Ranikhet: Permanent Black

CC4 (SEMESTER 2, CODE – ENG-A-CC-2-4-TH/TU)  
BRITISH POETRY AND DRAMA (14<sup>TH</sup> – 17<sup>TH</sup> CENTURY): 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

Poetry

Geoffrey Chaucer, 'Wife of Bath's Prologue'  
Edmund Spenser, 'One Day I Wrote Her Name'  
William Shakespeare, Sonnets 18 & 130  
John Donne, 'The Good Morrow'  
Andrew Marvell, 'To His Coy Mistress'

Drama

Christopher Marlowe, *Edward II* OR William Shakespeare, *Macbeth*  
William Shakespeare, *Twelfth Night* OR *As You Like It*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks each from poetry (out of three)

Two questions of 15 marks each (one from each) from drama  
(out of four, two from each)

Suggested Readings:

1. Pico Della Mirandola, excerpts from the Oration on the Dignity of Man, in *The Portable Renaissance Reader*, ed. James Bruce Ross and Mary Martin McLaughlin (New York: Penguin Books, 1953) pp. 476–9.
2. John Calvin, 'Predestination and Free Will', in *The Portable Renaissance Reader*, ed. James Bruce Ross and Mary Martin McLaughlin (New York: Penguin Books, 1953) pp. 704–11.
3. Baldassare Castiglione, 'Longing for Beauty' and 'Invocation of Love', in Book 4 of *The Courtier*, 'Love and Beauty', tr. George Bull (Harmondsworth: Penguin, rpt. 1983) pp. 324–8, 330–5.

4. Philip Sidney, *An Apology for Poetry*, in D.J. Enright and Ernst D. Chickera eds. *English Critical Texts*, Delhi: OUP

CC5 (SEMESTER 3, CODE – ENG-A-CC-3-5-TH/TU)  
AMERICAN LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Poetry

Robert Frost, 'After Apple Picking'  
Walt Whitman, 'O Captain, My Captain'  
Sylvia Plath, 'Daddy'  
Langston Hughes, 'Harlem to be Answered'  
Edgar Allan Poe, 'To Helen'

Novel

Ernest Hemingway, *The Old Man and the Sea*

Stories

Edgar Allan Poe, 'The Purloined Letter'  
F. Scott Fitzgerald, 'The Crack-up'  
William Faulkner, 'Dry September'

Drama

Arthur Miller, *Death of A Salesman*

End Semester Question Pattern:

Objective – 5 marks  
One question of 15 marks from poetry (out of three)  
One question of 15 marks from novel (out of two)  
One question of 15 marks from stories (out of two)  
One question of 15 marks from drama (out of two)

Suggested Readings:

1. Hector St John Crevecoeur, 'What is an American', (Letter III) in *Letters from an American Farmer* (Harmondsworth: Penguin, 1982) pp. 66–105.
2. Frederick Douglass, *A Narrative of the life of Frederick Douglass* (Harmondsworth: Penguin, 1982) chaps. 1–7, pp. 47–87.
3. Henry David Thoreau, 'Battle of the Ants' excerpt from 'Brute Neighbours', in *Walden* (Oxford: OUP, 1997) chap. 12.
4. Ralph Waldo Emerson, 'Self Reliance', in *The Selected Writings of Ralph Waldo Emerson*, ed. with a biographical introduction by Brooks Atkinson (New York: The Modern Library, 1964).
5. Toni Morrison, 'Romancing the Shadow', in *Playing in the Dark: Whiteness and Literary Imagination* (London: Picador, 1993) pp. 29–39.

CC6 (SEMESTER 3, CODE – ENG-A-CC-3-6-TH/TU)  
POPULAR LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Lewis Carroll, *Through the Looking Glass*

Agatha Christie, *The Murder of Roger Ackroyd*

Sukumar Ray, *Abol Tabol* ('Nonsense Rhymes', translated Satyajit Ray),  
Kolkata: Writers' Workshop

Herge, *Tintin in Tibet*

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from each of the four texts (out of two from each text)

Suggested Readings:

1. Chelva Kanaganayakam, 'Dancing in the Rarefied Air: Reading Contemporary Sri Lankan Literature' (ARIEL, Jan. 1998) rpt, Malashri Lal, Alamgir Hashmi, and Victor J. Ramraj, eds., *Post Independence Voices in South Asian Writings* (Delhi: Doaba Publications, 2001) pp. 51–65.
2. Sumathi Ramaswamy, 'Introduction', in *Beyond Appearances?: Visual Practices and Ideologies in Modern India* (Sage: Delhi, 2003) pp. xiii–xxix.
3. Leslie Fiedler, 'Towards a Definition of Popular Literature', in *Super Culture: American Popular Culture and Europe*, ed. C.W.E. Bigsby (Ohio: Bowling Green University Press, 1975) pp. 29–38.
4. Felicity Hughes, 'Children's Literature: Theory and Practice', *English Literary History*, vol. 45, 1978, pp. 542–61.

CC7 (SEMESTER 3, CODE – ENG-A-CC-3-7-TH/TU)  
BRITISH POETRY AND DRAMA (17<sup>TH</sup> – 18<sup>TH</sup> CENTURY): 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

Poetry

John Milton, *Paradise Lost*, Book I

Alexander Pope, *The Rape of the Lock*, Cantos I-III

Drama

John Webster, *The Duchess of Malfi*

Aphra Behn, *The Rover*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks each (one from each) from poetry  
(out of four, two from each)

Two questions of 15 marks each (one from each) from poetry  
(out of four, two from each)

Suggested Readings:

1. The Holy Bible, Genesis, chaps. 1–4, The Gospel according to St. Luke, chaps. 1–7 and 22–4.
2. Niccolo Machiavelli, *The Prince*, ed. and tr. Robert M. Adams (New York: Norton, 1992) chaps. 15, 16, 18, and 25.
3. Thomas Hobbes, selections from *The Leviathan*, pt. I (New York: Norton, 2006) chaps. 8, 11, and 13.
4. John Dryden, 'A Discourse Concerning the Origin and Progress of Satire', in *The Norton Anthology of English Literature*, vol. 1, 9th edn, ed. Stephen Greenblatt (New York: Norton 2012) pp. 1767–8.

CC8 (SEMESTER 4, CODE – ENG-A-CC-4-8-TH/TU)  
18<sup>TH</sup> CENTURY BRITISH LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

Poetry

Samuel Johnson, 'London'

Thomas Gray, *Elegy Written in a Country Churchyard*

Drama

William Congreve, *The Way of the World*

Prose (Fiction & Non-Fiction)

Daniel Defoe, *Robinson Crusoe*

Joseph Addison, 'Sir Roger at Home' and 'Sir Roger at Church'

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from poetry (out of two)

One question of 15 marks from drama (out of two)

Two questions of 15 marks each (one from each) from prose (out of four, two from each)

Suggested Readings:

1. Jeremy Collier, *A Short View of the Immorality and Profaneness of the English Stage* (London: Routledge, 1996).
2. Daniel Defoe, 'The Complete English Tradesman' (Letter XXII), 'The Great Law of Subordination Considered' (Letter IV), and 'The Complete English Gentleman', in *Literature and Social Order in Eighteenth-Century England*, ed. Stephen Copley (London: Croom Helm, 1984).



3. Samuel Johnson, 'Essay 156', in *The Rambler*, in *Selected Writings: Samuel Johnson*, ed. Peter Martin (Cambridge, Mass.: Harvard University Press, 2009) pp. 194–7; *Rasselas* Chapter 10; 'Pope's Intellectual Character: Pope and Dryden Compared', from *The Life of Pope*, in *The Norton Anthology of English Literature*, vol. 1, ed. Stephen Greenblatt, 8th edn (New York: Norton, 2006) pp. 2693–4, 2774–7.

CC9 (SEMESTER 4, CODE – ENG-A-CC-4-9-TH/TU)  
BRITISH ROMANTIC LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

Poetry

William Blake, 'The Lamb' and 'The Tyger'  
William Wordsworth, 'Tintern Abbey'  
Samuel Taylor Coleridge, 'Kubla Khan'  
Percy Bysshe Shelley, 'Ode to the West Wind' and 'To a Skylark'  
John Keats, 'Ode to a Nightingale' and 'Ode to Autumn'

Prose (Fiction & Non-Fiction)

Charles Lamb, 'Dream Children', 'The Superannuated Man'  
Mary Shelley, *Frankenstein*

End Semester Question Pattern:

Objective – 5 marks  
2 questions of 15 marks each from poetry (out of four)  
2 questions of 15 marks each (one from each) from prose (out of four, two from each)

Suggested Readings:

1. William Wordsworth, 'Preface to Lyrical Ballads', in D.J. Enright and Ernst D. Chickera eds. *English Critical Texts*, Delhi: OUP
2. John Keats, 'From the Letters', in D.J. Enright and Ernst D. Chickera eds. *English Critical Texts*, Delhi: OUP
3. Jean-Jacques Rousseau, 'Preface' to *Emile or Education*, tr. Allan Bloom (Harmondsworth: Penguin, 1991).
4. Samuel Taylor Coleridge, *Biographia Literaria*, Chapters XIV and XVII, in D.J. Enright and Ernst D. Chickera eds. *English Critical Texts*, Delhi: OUP

CC10 (SEMESTER 4, CODE – ENG-A-CC-4-10-TH/TU)  
19<sup>TH</sup> CENTURY BRITISH LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

### Poetry

Lord Tennyson, 'Ulysses'  
Robert Browning, 'My Last Duchess'  
Christina Rossetti, 'The Goblin Market'  
Matthew Arnold, 'Dover Beach'

### Novel

Jane Austen, *Pride and Prejudice* OR Charlotte Bronte, *Jane Eyre*  
Charles Dickens, *Oliver Twist* OR Thomas Hardy, *The Mayor of Casterbridge*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15marks each from poetry (out of three)

Two questions of 15 marks each (one from each) from novels  
(out of four, two from each)

### Suggested Readings:

1. Karl Marx and Friedrich Engels, 'Mode of Production: The Basis of Social Life', 'The Social Nature of Consciousness', and 'Classes and Ideology', in *A Reader in Marxist Philosophy*, ed. Howard Selsam and Harry Martel (New York: International Publishers, 1963) pp. 186–8, 190–1, 199–201.
2. Charles Darwin, 'Natural Selection and Sexual Selection', in *The Descent of Man* in *The Norton Anthology of English Literature*, 8th edn, vol. 2, ed. Stephen Greenblatt (New York: Norton, 2006) pp. 1545–9.
3. John Stuart Mill, 'The Subjection of Women' in *Norton Anthology of English Literature*, 8th edn, vol. 2, ed. Stephen Greenblatt (New York: Norton, 2006) chap. 1, pp. 1061–9.

CC11 (SEMESTER 5, CODE – ENG-A-CC-5-11-TH/TU)  
WOMEN'S WRITINGS: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### Poetry

Emily Dickinson, 'I cannot live with you'  
Elizabeth Barrett Browning, 'How do I love thee'  
Eunice De Souza, 'Advice to Women'

### Fiction

Alice Walker, *Color Purple* OR Emily Bronte, *Wuthering Heights*  
Mahasweta Devi, 'Draupadi', translated Gayatri Chakravorty Spivak  
Katherine Mansfield, 'Bliss'

### Non-Fiction

Mary Wollstonecraft, *A Vindication of the Rights of Woman*, Chapters I & II (New York: Norton, 1988)

Rassundari Devi, *Amar Jiban*, translated Enakshi Chatterjee, Writers' Workshop.

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from poetry (out of two)

Two questions of 15 marks each from fiction (out of three, one from each)

One question of 15 marks from non-fiction (out of two, one from each)

Suggested Readings:

1. Virginia Woolf, *A Room of One's Own* (New York: Harcourt, 1957) chaps. 1 and 6.
2. Simone de Beauvoir, 'Introduction', in *The Second Sex*, tr. Constance Borde and Shiela Malovany-Chevallier (London: Vintage, 2010) pp. 3–18.
3. Kumkum Sangari and Sudesh Vaid, eds., 'Introduction', in *Recasting Women: Essays in Colonial History* (New Delhi: Kali for Women, 1989) pp. 1–25.
4. Chandra Talapade Mohanty, 'Under Western Eyes: Feminist Scholarship and Colonial Discourses', in *Contemporary Postcolonial Theory: A Reader*, ed. Padmini Mongia (New York: Arnold, 1996) pp. 172–97
5. 'Feminist Criticism' in Peter Barry, *Beginning Theory*, Chennai: T.R. Publications

CC12 (SEMESTER 5, CODE – ENG-A-CC-5-12-TH/TU)  
EARLY 20<sup>TH</sup> CENTURY BRITISH LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social and Intellectual Background

### Poetry

T.S. Eliot, 'The Love Song of J. Alfred Prufrock' and 'Preludes'  
W.B. Yeats, 'The Second Coming' and 'No Second Troy'  
Wilfred Owen, 'Spring Offensive'

### Fiction

Joseph Conrad, *Heart of Darkness*  
D.H. Lawrence, *Sons and Lovers*

### Drama

George Bernard Shaw, *Pygmalion*

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from poetry (out of two)

Two questions of 15 marks each (one from each) from fiction  
(out of four, two from each)

One question of 15 marks from drama (out of two)

Suggested Readings:

1. Sigmund Freud, 'Theory of Dreams', 'Oedipus Complex', and 'The Structure of the Unconscious', in *The Modern Tradition*, ed. Richard Ellman et. al. (Oxford: OUP, 1965) pp. 571, 578–80, 559–63.
2. T.S. Eliot, 'Tradition and the Individual Talent', in D.J. Enright and Ernst D. Chickera eds. *English Critical Texts*, Delhi: OUP
3. Raymond Williams, 'Introduction', in *The English Novel from Dickens to Lawrence* (London: Hogarth Press, 1984) pp. 9–27.
4. Raymond Williams, 'Introduction', in *Drama from Ibsen to Brecht*, Penguin, 1973

CC13 (SEMESTER 6, CODE – ENG-A-CC-6-13-TH/TU)  
MODERN EUROPEAN DRAMA: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Henrik Ibsen, *Ghosts* OR *A Doll's House*  
Bertolt Brecht, *The Good Woman of Szechuan*  
Samuel Beckett, *Waiting for Godot*

End Semester Question Pattern:

Objective – 5 marks

One question of 20 marks out of two from each of the three plays

Suggested Readings:

1. Constantin Stanislavski, *An Actor Prepares*, chap. 8, 'Faith and the Sense of Truth', tr. Elizabeth Reynolds Hapgood (Harmondsworth: Penguin, 1967) sections 1, 2, 7, 8, 9, pp. 121–5, 137–46.
2. Bertolt Brecht, 'The Street Scene', 'Theatre for Pleasure or Theatre for Instruction', and 'Dramatic Theatre vs Epic Theatre', in *Brecht on Theatre: The Development of an Aesthetic*, ed. and tr. John Willet (London: Methuen, 1992) pp. 68–76, 121–8.
3. George Steiner, 'On Modern Tragedy', in *The Death of Tragedy* (London: Faber, 1995) pp. 303–24.

CC14 (SEMESTER 6, CODE – ENG-A-CC-6-14-TH/TU)  
POSTCOLONIAL LITERATURES: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Poetry

Pablo Neruda, 'Tonight I Can Write'  
Derek Walcott, 'A Far Cry from Africa'  
David Malouf, 'Revolving Days'

Mamang Dai, 'The Voice of the Mountain'

### Novel

Chinua Achebe, *Things Fall Apart*

Gabriel Garcia Marquez, *Chronicle of a Death Foretold*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks each from poetry (out of three)

Two questions of 15 marks each (one from each) from novel (out of four, two from each)

Suggested Readings:

1. Frantz Fanon, 'The Negro and Language', in *Black Skin, White Masks*, tr. Charles Lam Markmann (London: Pluto Press, 2008) pp. 8–27.
2. Ngugiwa Thiong'o, 'The Language of African Literature', in *Decolonising the Mind* (London: James Curry, 1986) chap. 1, sections 4–6.
3. Gabriel Garcia Marquez, the Nobel Prize Acceptance Speech, in *Gabriel Garcia Marquez: New Readings*, ed. Bernard McGuirk and Richard Cardwell (Cambridge: Cambridge University Press, 1987)
4. 'Postcolonial Criticism' in Peter Barry, *Beginning Theory*, Chennai: T.R. Publications
5. Ania Loomba, *Colonialism/Postcolonialism*, London and New York: Routledge

FOR ALL DSECOURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65

Tutorial – 15

Internal – 10

Attendance – 10

Semester 5 – DSE-A1 OR DSE-A2 and DSE-B1 OR DSE-B2

Semester 6 – DSE-A3 OR DSE-A4 and DSE-B3 OR DSE-B4

DSE-A1 (SEMESTER 5, CODE –ENG-A-DSE-A-5-1-TH/TU)  
MODERN INDIAN WRITING IN ENGLISH TRANSLATION: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### Stories

Munshi Prem Chand, 'The Shroud'

Ismat Chughtai, 'The Quilt'

Fakir Mohan Senapati, 'Rebati'

### Poetry

Rabindranath Tagore, 'Light, oh where is the light?' (*Gitanjali* XXVII)  
and 'When my play was with thee' (*Gitanjali* XCVII)  
G.M. Muktibodh, 'The Void'  
Amrita Pritam, 'I say unto Waris Shah'

### Novel

Rabindranath Tagore, *The Home and the World*

### Drama

Vijay Tendulkar, *Silence! The Court is in Session*

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from story (out of two)

One question of 15 marks from poetry (out of two)

One question of 15 marks from novel (out of two)

One question of 15 marks from drama (out of two)

Suggested Readings:

1. Namwar Singh, 'Decolonising the Indian Mind', tr. Harish Trivedi, *Indian Literature*, no. 151 (Sept./Oct. 1992).
2. B.R. Ambedkar, 'Annihilation of Caste' in *Dr. Babasaheb Ambedkar: Writings and Speeches*, vol. 1 (Maharashtra: Education Department, Government of Maharashtra, 1979) chaps. 4, 6, and 14.
3. Sujit Mukherjee, 'A Link Literature for India', in *Translation as Discovery* (Hyderabad: Orient Longman, 1994) pp. 34–45.
4. G.N. Devy, 'Introduction', from *After Amnesia* in *The G.N. Devy Reader* (New Delhi: Orient BlackSwan, 2009) pp. 1–5.

DSE-A2 (SEMESTER 5, CODE – ENG-A-DSE-A-5-2-TH/TU)  
LITERARY THEORY AND CRITICISM: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### Literary Theory

Antonio Gramsci, 'The Formation of the Intellectuals' from *The Prison Notebooks*

Virginia Woolf: 'A Room of One's Own'

Rabindranath Tagore, 'Nationalism in India', in *Nationalism*, with an Introduction by Ramachandra Guha, New Delhi: Penguin Books

### Literary Criticism

William Wordsworth, 'Preface' to the *Lyrical Ballads*

S.T. Coleridge, *Biographia Literaria*, Chapters XIII and XIV

T.S. Eliot, 'Tradition and the Individual Talent'

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks from Literary Theory (out of three, one from each text)

Two questions of 15 marks from Literary Criticism (out of three, one from each text)

Suggested Readings:

1. Terry Eagleton, *Literary Theory: An Introduction* (Oxford: Blackwell, 2008).
2. Peter Barry, *Beginning Theory*, Chennai: T.R. Publications, 1999.
3. Peter Barry (ed), *Issues in Contemporary Critical Theory: A Selection of Critical Essays, A Casebook*, Macmillan, 1987
4. Raman Selden and Peter Widdowson, *A Reader's Guide to Contemporary Literary Theory*, Pearson India, 2006
5. C.S. Lewis: *Introduction in An Experiment in Criticism*, Cambridge University Press 1992
6. M.H. Abrams: *The Mirror and the Lamp*, Oxford University Press, 1971
7. Rene Wellek, Stephen G. Nicholas: *Concepts of Criticism*, Connecticut, Yale University 1963
8. Taylor and Francis Eds. *An Introduction to Literature, Criticism and Theory*, Routledge, 1996

DSE-B1 (SEMESTER 5, CODE – ENG-A-DSE-B-5-1-TH/TU)  
LITERARY TYPES, RHETORIC AND PROSODY: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Group – A: Literary Types

Tragedy (Tragic Hero, Catharsis, Heroic Tragedy, Chorus)  
Comedy (Romantic Comedy, Comedy of Humours, Comedy of Manners, Sentimental Comedy)  
Short Story

Group – B: Rhetoric

Group – C: Prosody

End Semester Question Pattern:

Objective – 5 marks

Two questions of 20 marks from Group A (out of three)

One question of 10 marks from Group B (out of two)

One question of 10 marks from Group C (out of two)

Suggested Readings:

1. K.R.S. Iyengar and Prema Nandakumar, *Introduction to the Study of English Literature*
2. S.H. Butcher, *Aristotle's Theory of Poetry and Fine Art*, New Delhi: Kalyani Publishers
3. Allardyce Nicoll, *The Theory of Drama*

4. Bose and Sterling, *Elements of English Rhetoric and Prosody*

DSE-B2 (SEMESTER 5, CODE – ENG-A-DSE-B-5-2-TH/TU)  
CONTEMPORARY INDIA: WOMEN AND EMPOWERMENT: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Social Construction of Gender

History of Women's Movement in India (pre-independence and post-independence)

Women and Law: Domestic Violence, Female Foeticide, Sexual Harassment

Dalit Women and Double Marginalisation

End Semester Question Pattern:

Objective – 5 marks

Society, Sex and Gender – 20 marks

History of Women's Movement in India – 15 marks

Women and Law – 15 marks

Dalit Women – 10 marks

Recommended Readings:

1. Rinita Mazumdar, *A Short Introduction to Feminist Theory*, Kolkata: Anustup, 2010.
2. 'Feminist Criticism' in Peter Barry, *Beginning Theory*, Chennai: T.R. Publications, 1999.
3. V. Geetha, *Gender*, Calcutta: Stree, 2002.
4. Kate Millet, *Sexual Politics*, New York: Doubleday, 1970.
5. Ann Oakley, *Sex, Gender and Society*, London: Temple Smith, 1972.
6. Ray Raka, *Fields of Protest: Women's Movements in India*, New Delhi: Kali for Women, 2000.
7. *The Sexual Harassment of Women at Workplace, (Prevention, Prohibition and Redressal) Bare Act*, New Delhi: Universal, 2014.
8. Sharmila Rege, *Against the Madness of Manu, B.R. Ambedkar's Writings on Brahmanical Patriarchy*, New Delhi: Navayana, 2013.
9. Sandra Gilbert and Susan Gubar, *The Madwoman in the Attic: The Woman Writer and the Nineteenth Century Literary Imagination*

DSE-A3 (SEMESTER 6, CODE – ENG-A-DSE-A-6-3-TH/TU)  
PARTITION LITERATURE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Novel

Amitav Ghosh, *The Shadow Lines*



### Short Stories

Protiva Basu, 'The Marooned', translated Subhasree Tagore, in *The Other Voice*, eds. Tapati Gupta and Anil Acharya, Kolkata: Anustup  
Manik Bandyopadhyay, 'The Final Solution', translated Rani Ray, in  
Debjani Sengupta ed. *Mapmaking: Partition Stories from Two Bengals*,  
New Delhi: Srishti  
Sadat Hasan Manto, 'Toba Tek Singh', in *Black Margins:Manto*, New  
Delhi: Manohar

### Poetry

Sahir Ludhianvi, 'Twentysixth January',  
Birendra Chattopadhyay, 'After Death: Twenty Years'  
Sankha Ghosh, 'Rehabilitation', in RakhshandaJalil, Tarun Saint and  
Debjani Sengupta eds. *Looking Back: The 1947 Partition of India 70  
Years On*, New Delhi: Orient Blackswan, 2017

#### End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from novel (out of two)

Two questions of 15 marks each from short stories (out of three,  
one from each)

One question of 15 marks from poetry (out of two)

#### Suggested Readings:

1. Ritu Menon and Kamla Bhasin, 'Introduction', in *Borders and Boundaries*  
(New Delhi: Kali for Women, 1998).
2. Sukrita P. Kumar, *Narrating Partition* (Delhi: Indialog, 2004).
3. Urvashi Butalia, *The Other Side of Silence: Voices from the Partition of India*  
(Delhi: Kali for Women, 2000).
4. Sigmund Freud, 'Mourning and Melancholia', in *The Complete Psychological  
Works of Sigmund Freud*, tr. James Strachey (London: Hogarth Press, 1953)  
pp. 3041–53.

DSE-A4 (SEMESTER 6, CODE – ENG-A-DSE-A-6-4-TH/TU)

MEDIA AND COMMUNICATION STUDIES: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Introduction to Mass Communication

Mass Communication and Globalisation

Writing Pamphlets, Posters etc

Advertisements and Creating Advertisements

#### End Semester Question Pattern:

Questions on Mass Communication (Theory) – 20 marks

Report / Pamphlet Writing – 20 marks

Advertisement / Poster Writing – 15 marks

## Pamphlet Writing – 10 marks

### Recommended Readings:

1. M.V. Kamath, *Professional Journalism*, New Delhi: Vikas Publishing House, 1980.
2. Ambrish Saxena, *Fundamentals of Reporting and Editing*, New Delhi: Kanishka Publishers, 2007.
3. Uma Narula, *Handbook of Communication Models, Perspectives, Strategies*, New Delhi: Atlantic Publishers, 2006.
4. Stephen Cushion, *Television Journalism*, New Delhi: Sage Publications, 2012.
5. Tony Feldman, *An Introduction to Digital Media*, Taylor and Francis, 2004.

DSE-B3 (SEMESTER 6, CODE – ENG-A-DSE-B-6-3-TH/TU)  
AUTOBIOGRAPHY - 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Rabindranath Tagore, *My Reminiscences*, Chapters 1-15, New Delhi: Rupa & Co.

Mahatma Gandhi, *Autobiography or the Story of My Experiments with Truth*, Part I, Chapters 1 to 8

Binodini Dasi, *My Story and Life as an Actress*, pp 61-83, New Delhi: Kali for Women

Nirad C. Chaudhuri, *Autobiography of an Unknown Indian*, Book I, Mumbai: Jaico Publishing House

### End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks out of two from each of the texts

### Suggested Readings:

1. James Olney, 'A Theory of Autobiography' in *Metaphors of Self: The Meaning of Autobiography* (Princeton: Princeton University Press, 1972) pp. 3-50.
2. Laura Marcus, 'The Law of Genre' in *Auto/biographical Discourses* (Manchester: Manchester University Press, 1994) pp. 229-72.
3. Linda Anderson, 'Introduction' in *Autobiography* (London: Routledge, 2001) pp.1-17.
4. Mary G. Mason, 'The Other Voice: Autobiographies of women Writers' in *Life/Lines: Theorizing Women's Autobiography*, Edited by Bella Brodzki and Celeste Schenck (Ithaca: Cornell University Press, 1988) pp. 19-44.

DSE-B4 (SEMESTER 6, CODE – ENG-A-DSE-B-6-4-TH/TU)  
TEXT AND PERFORMANCE: 6 CREDITS

(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

Historical Overview of Indian and Western Theatre  
Classical, Modern and Contemporary Theatres  
Historical Developments of Theatrical Forms  
Folk Traditions

End Semester Question Pattern:

History of Theatre and Traditions of Theatre (in India and the West) – 20 marks  
Contribution of Eminent Individuals – 10 marks  
Folk Traditions – 20 marks  
Tagore as Theatrician – 15 marks

Recommended Readings:

Kamalesh Datta Tripathi, 'Rasa' in *Theatres of India: A Concise Companion*, New Delhi: OUP, 2009.  
Kamalesh Datta Tripathi, 'Natyasastra' in *Theatres of India: A Concise Companion*, New Delhi: OUP, 2009.  
Ananda Lal, 'Tagore as Theatrician' in Rabindranath Tagore, *Three Plays*, Translated and with an introduction by Ananda Lal, New Delhi: OUP, 2001.  
Prasanna, *Indian Method in Acting*, New Delhi: National School of Drama, 2013.  
Walter Benjamin, 'What is Epic Theatre', *Understanding Brecht*, London and New York, Verso, 1973.  
Robert Leach: *Theatre Studies: The Basics*, Routledge, 2015.  
Sonia Moore, *The Stanislavsky System: The Professional Training of an Actor*, Penguin, 1984.

AECC1 – COMMUNICATIVE ENGLISH: 2 CREDITS (SEMESTER 1)

- Correction of sentences
- Transformation (Simple, Complex and Compound Sentences; Degrees of Comparison; Affirmative and Negative Sentences; Interrogative and Assertive Sentences; Exclamatory and Assertive Sentences)
- Identifying True/False Statements from Given Passages

Internal – 10 marks

Attendance – 10 marks

End Semester Questions – MCQ 80 marks

End Semester Question Patterns:

Correction of Sentences: 20 (2 x 10)

Transformation of Sentences: 20 (2 x 10)

True/False Statements from Given Passage One: 20 (4 x 5)

True/False Statements from Given Passage Two: 20 (4 x 5)

SEC-A1 (SEMESTER 3, CODE –ENG-A-SEC-A-3-1-TH)  
TRANSLATION STUDIES: 2 CREDITS

Unit 1 – Importance of translation in a multi-linguistic and multi-cultural society

Unit 2 – Literal translation

Unit 3 – Free translation

Unit 4 – Transcreation

Internal – 10 marks

Attendance – 10 marks

End Semester Question Pattern (80 marks, no tutorial):

Questions may include (1) translation from one language to another (2) critical comments on a translated passage (3) differences between literal translation and free translation (4) why translation is necessary into other Indian languages and also to foreign languages

### Recommended Readings

1. Jyoti Bhattacharya, *Transcreations: Some Experiments on Tagore Songs*, Kolkata: Gangchil
2. Mona Baker, *In Other Words: A Coursebook on Translation*, Routledge, 2001.
3. I.C. Catford, *A Linguistic Theory of Translation*, London: OUP, 1965.
4. Ravinder Gargesh and Krishna Kumar Goswami eds. *Translation and Interpreting: Reader and Workbook*, New Delhi: Orient Longman, 2007.
5. Sukanta Chaudhuri, *Translation and Understanding*, New Delhi: OUP
6. Lawrence Venuti (ed), *The Translation Studies Reader*, London and New York: Routledge, 2012

SEC-A2 (SEMESTER 3, CODE – ENG-A-SEC-A-3-2-TH)  
BUSINESS COMMUNICATION: 2 CREDITS

What is business communication

Writing reports, letters, curriculum vitae

Writing meeting minutes

E-correspondence

Internal – 10 marks

Attendance – 10 marks

End Semester Question Pattern (80 marks, no tutorial):

Writing Business Letters – 15 marks

Writing CV – 15 marks

Writing e-mail – 15 marks

Writing Report – 15 marks

Writing Meeting Minutes – 20 marks

### Recommended Readings:

1. O. Scot, *Contemporary Business Communication*, New Delhi: Biztantra
2. R. Ludlow and F. Panton, *The Essence of Effective Communications*, New Delhi: Prentice Hall of India Pvt Ltd

3. R.C. Bhatia, *Business Communication*, New Delhi: Ane Books Private Limited

SEC-B1 (SEMESTER 4, CODE – ENG-A-SEC-B-4-1-TH)

CREATIVE WRITING: 2 CREDITS

What is creative writing

Modes of creative writing

Writing Short Story / Poetry

Preparing for publication

Internal – 10 marks

Attendance – 10 marks

End Semester Question Pattern (80 marks, no tutorial):

Questions may include (1) the importance of creative writing in development of personality and creativity (2) actual creative writing – poem or short story (3) different modes of publishing – viz. books, articles in newspapers, articles in magazines and periodicals, social media – and differences of impact

Recommended Readings:

1. Anjana Neira Dev *et al*, *Creative Writing: A Beginner's Manual*, New Delhi: Pearson, 2009.
2. David Morley and Philip Neilsen eds., *The Cambridge Companion to Creative Writing*

SEC-B2 (SEMESTER 4, CODE – ENG-A-SEC-B-4-2-TH)

ACADEMIC WRITING AND COMPOSITION: 2 CREDITS

Introduction to the writing process

Introduction to academic writing

Summarising and paraphrasing

Citing Sources

Internal – 10 marks

Attendance – 10 marks

End Semester Question Pattern (80 marks, no tutorial):

Citing Sources – 10 marks

Writing Critical Appreciation – 20 marks

Writing Summary/Substance with a Critical Note – 12 + 8 marks

Writing Essay – 30 marks

Recommended Readings:

1. Liz Hamp-Lyons and Ben Heasley, *Study writing: A Course in Writing Skills for Academic Purposes* (Cambridge: CUP, 2006).
2. Renu Gupta, *A Course in Academic Writing* (New Delhi: Orient Blackswan, 2010).

3. Ilona Leki, *Academic Writing: Exploring Processes and Strategies* (New York: CUP, 2nd edn, 1998).
4. Gerald Graff and Cathy Birkenstein, *They Say/I Say: The Moves That Matter in Academic Writing* (New York: Norton, 2009).
5. Hacker, D. & Sommers, N. (2011). *A writer's reference* (7th ed.). Boston, MA: Bedford/St, Martin's. PE1408.H2778 2011

# University of Calcutta

## CBCS Syllabus for BA General Programme in English

### COURSE STRUCTURE

SEMESTER	COURSE TYPE
SEMESTER I	CC1/GE1 AECC1
SEMESTER II	CC2/GE2
SEMESTER III	CC3/GE3 L1-1 SECA
SEMESTER IV	CC4/GE4 SECB L2-1
SEMESTER V	L1-2 DSEA SECA
SEMESTER VI	DSEB SECB L2-2

### **CORECOURSE(CC)**

CC1/GE1:Poetry&ShortStory  
CC2/GE2:Essay,Drama&Novel  
CC3/GE3:Women's Writing  
CC4/GE4:AcademicWritingandComposition

### **LCC COURSE**

LCC-1 (L1-1): Language, Variety and Stylistics  
LCC-1 (L1-2): Language, Imagination & Creativity  
LCC-2 (Alternative English) (L2-1): Language, Society and Personality  
LCC-2 (Alternative English) (L2-2): Language, Creativity and Analysis

**DISCIPLINE SPECIFIC ELECTIVE(DSE)**

ONE TO BE CHOSEN FROM DSEA AND ONE TO BE CHOSEN FROM DSEB

DSEA1: British Literature  
DSEA2: Modern Indian Writing in English Translation  
DSEB1: Partition Literature  
DSEB2: Translation Studies

**ABILITY ENANCEMENT COMPULSORY COURSE (AECC)**

AECC-1: Communicative English/MIL  
AECC-2: Environmental Studies

**SKILL ENHANCEMENT COURSE (SEC)**

ONE TO BE CHOSEN FROM SECA AND ONE TO BE CHOSEN FROM SECB

SECA1: English Language Teaching  
SECA2: Business Communication  
SECB1: Spoken English  
SECB2: Creative Writing

**COURSE DETAILS**

FOR ALL CC/GECOURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65  
Tutorial – 15  
Internal – 10  
Attendance – 10

CC1/GE1 (SEMESTER 1, CODE –ENG-G-CC-1-1-TH/TU) – 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

**POETRY AND SHORT STORY**

**Poetry**

William Shakespeare: Sonnet 18  
William Wordsworth: 'Strange fits of passion'  
P.B. Shelley: 'To a Skylark'  
John Keats: 'To Autumn'

**Short Story**

James Joyce: 'Araby'  
Katherine Mansfield: 'The Fly'  
Joseph Conrad: 'The Lagoon'

End Semester Question Pattern:



Objective – 5 marks

Two question of 15 marks out of four from poetry (one from each poem)

Two questions of 15 marks out of three from short story (one from each)

CC2/GE2 (SEMESTER 2, CODE – ENG-G-CC-2-2-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### ESSAY, DRAMA AND NOVEL

#### Essay

Charles Lamb: 'Dream Children: A Reverie'

George Orwell: 'Shooting an Elephant'

#### Drama

William Shakespeare: *As You Like It*

George Bernard Shaw: *Arms and the Man*

#### Novel

Thomas Hardy: *The Mayor of Casterbridge*

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks out of two from essay (one from each)

Two questions of 15 marks (one from each) out of four from drama (two from each)

One question of 15 marks out of two from novel

CC3/GE3 (SEMESTER 3, CODE – ENG-G-CC-3-3-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### WOMEN'S WRITING AND WOMEN'S EMPOWERMENT

#### Poetry

Elizabeth Barret Browning: 'How Do I Love Thee'

Christina Rossetti: 'Uphill'

Emily Dickinson: 'I cannot live with you'

Sarojini Naidu: 'Palanquin Bearers'

#### Prose

Rassundari Devi: *Amar Jiban*, translated Enakshi Chatterjee, Writers' Workshop.

Rokeya Sakhawat Hussain: *Sultana's Dream*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks out of three from poetry

Two questions of 15 marks (one from each) out of four from prose (two from each)

CC4/GE4 (SEMESTER 4, CODE – ENG-G-CC-4-4-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### ACADEMIC WRITING

Introduction to the writing process  
Introduction to academic writing  
Summarising and paraphrasing  
Writing Essay  
Citing Sources

End Semester Question Pattern:

Citing Sources – 5 marks  
Writing Critical Appreciation – 15 marks  
Writing Summary/Substance with a Critical Note – 12 + 8 marks  
Writing Essay – 25 marks

Suggested Readings:

1. Liz Hamp-Lyons and Ben Heasley, *Study writing: A Course in Writing Skills for Academic Purposes* (Cambridge: CUP, 2006).
2. Renu Gupta, *A Course in Academic Writing* (New Delhi: Orient Blackswan, 2010).
3. Ilona Leki, *Academic Writing: Exploring Processes and Strategies* (New York: CUP, 2nd edn, 1998).
4. Gerald Graff and Cathy Birkenstein, *They Say/I Say: The Moves That Matter in Academic Writing* (New York: Norton, 2009).
5. Hacker, D. & Sommers, N. (2011). *A writer's reference* (7th ed.). Boston, MA: Bedford/St, Martin's. PE1408.H2778 2011

FOR ALL LCC COURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65  
Tutorial – 15  
Internal – 10  
Attendance – 10

LCC (L1)-1 (SEMESTER 3, CODE – ENG-G-LCC-1-3-1-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### LANGUAGE, VARIETY AND STYLISTICS

Language and Communication: Official and Personal  
Language Varieties: Formal & Informal, Correct and Incorrect  
Differences between British English and American English

End Semester Question Pattern:

Writing Letter (Personal or Business) – 15 marks

Writing Report – 15 marks

Writing e-mail – 15 marks

Correction – 10 marks

British English to American English and vice versa (objective) – 10 marks

Suggested Readings:

Rajend Mesthrie and Rakesh M. Bhatt, *World Englishes: The Study of New Linguistic Varieties*, Cambridge: CUP, 2008

George Bernard Shaw, 'Spoken English and Broken English'

H.G. Widdowson, *Stylistics and the Teaching of Literature*

LCC (L1)-2 (SEMESTER 5, CODE – ENG-G-LCC-1-5-2-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

#### LANGUAGE, IMAGINATION AND CREATIVITY

Plain Language and Figurative Language (Use of Figures of Speech)

Language of Poetry with reference to select poems:

William Wordsworth: 'Three Years She Grew',

Lord Tennyson: 'Break Break Break',

Henry Louis Vivian Derozio: 'To India, My Native Land',

Rabindranath Tagore: 'Gitanjali 50',

Creative use of Language: Writing Story, Travelogues and Advertisement Matters

End Semester Question Pattern:

Identifying Figures of Speech – 10 marks

Two questions of 15 marks from poetry (out of three)

Writing Story – 10 marks

Writing Travelogue – 10 marks

Writing Advertisement Matters – 5 marks

Suggested Reading:

Geoffrey N. Leech, *A Linguistic Guide to English Poetry*

Bose and Sterling, *Rhetoric and Prosody*

LCC (L2) – 1 (Alternative English)

#### LANGUAGE, SOCIETY AND PERSONALITY

(SEMESTER 4, CODE – ENG-G-LCC-2-4-1-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

1. Language and Society:

- a. Shashi Tharoor, 'The Idea of India: India's Mosaic of Multiplicities'
- b. Ismat Chughtai, 'Roots'
- c. Ramachandra Guha, 'A Gandhian in Garhwal'

[from B. Keralavarma (ed), *Understanding India: Reflections on Indian Polity, Secularism and Sustainable Environment*, Kottayam, Kerala: Macmillan Publishers India Ltd and Mahatma Gandhi University, Kerala, 2010]

## 2 . Language and Personality

- a. Louis Fischer, 'Gandhi and the Western World', from B. Keralavarma (ed), *Understanding India: Reflections on Indian Polity, Secularism and Sustainable Environment*, Kottayam, Kerala: Macmillan Publishers India Ltd and Mahatma Gandhi University, Kerala, 2010.
- b. Sisirkumar Ghosh, *Makers of Indian Literature: Rabindranath Tagore*, New Delhi: Sahitya Akademi, 2012 (first chapter, viz. 'Life')
- c. Subal Chandra Mitra, *Isvar Chandra Vidyasagar: A Story of His Life and Work*, New Delhi: Rupa and Co., 2008 (the first two chapters, viz. 'Birth and Ancestry' and 'Childhood and Early Instruction')

## End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks each out of three from Section 1.

Two questions of 15 marks each out of three from Section 2.

## LCC (L2)-2(Alternative English) LANGUAGE, CREATIVITY AND ANALYSIS

(SEMESTER 6, CODE – ENG-G-LCC-2-6-2-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### Prose

R.K. Narayan, 'Out of Business'  
Bhisham Sahni, 'The Boss Came to Dinner'  
Ruskin Bond, 'The Thief's Story'  
Prem Chand, 'The Child'

### Poetry

Rabindranath Tagore, 'Gitanjali: XVIII'  
Purushottam Lal, 'Life'  
Nissim Ezekiel, 'In a Country Cottage'  
Gauri Deshpande, 'The Female of the Species'

[from UG Board of Studies in English, University of Calcutta (ed), *Golden Leaves: A Textbook for College Students*, New Delhi: Macmillan Publishers India Ltd and University of Calcutta, 2011]

## End Semester Question Pattern:

Objective – 5 marks

Two question of 15 marks out of three from Prose

Two questions of 15 marks each out of three from Poetry

FOR ALL DSE COURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65  
Tutorial – 15  
Internal – 10  
Attendance – 10

DSEA1 (SEMESTER 5, CODE – ENG-G-DSEA-5-1-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### BRITISH LITERATURE

#### Poetry

##### *Group – A*

William Wordsworth, 'Tintern Abbey'

Percy Bysshe Shelley, 'Ode to the West Wind'

John Keats, 'Ode to a Nightingale'

##### *Group – B*

Lord Tennyson, 'Ulysses'

Matthew Arnold, 'Dover Beach'

W.B. Yeats, 'The Second Coming'

#### Drama

William Shakespeare, *Macbeth*

#### Fiction

Robert Louis Stevenson, *The Strange Case of Dr Jekyll and Mr Hyde*

End Semester Question Pattern:

Objective – 5 marks

Two questions of 15 marks from poetry (one from each group) out of four,  
two from each group

One question of 15 marks out of two from drama

One question of 15 marks out of two from fiction

DSEA2 (SEMESTER 5, CODE – ENG-G-DSEA-5-2-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### MODERN INDIAN WRITING IN ENGLISH TRANSLATION

#### Novel

Rabindranath Tagore, *The Home and the World*

#### Poetry

Rabindranath Tagore, 'Light, oh where is the light?' (*Gitanjali* XXVII) and 'When  
my play was with thee' (*Gitanjali* XCVII)

G.M. Muktibodh, 'The Void'

Amrita Pritam, 'I say unto Waris Shah'

### Drama

Vijay Tendulkar, *Silence! The Court is in Session*  
Habib Tanveer, *Charandas Chor*

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks out of two from novel

One question of 15 marks out of three from poetry

Two questions of 15 marks each (one from each) out of four from drama  
(two from each drama)

DSEB1 (SEMESTER 6, CODE – ENG-G-DSEB-6-1-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### PARTITION LITERATURE

### Novel

Amitav Ghosh, *The Shadow Lines*

### Short Stories

Protiva Basu, 'The Marooned', translated Subhasree Tagore, in *The Other Voice*, eds. Tapati Gupta and Anil Acharya, Kolkata: Anustup

Manik Bandyopadhyay, 'The Final Solution', translated Rani Ray, in Debjani Sengupta ed. *Mapmaking: Partition Stories from Two Bengals*, New Delhi: Srishti

Sadat Hasan Manto, 'Toba Tek Singh', in *Black Margins: Manto*, New Delhi: Manohar

### Poetry

Sahir Ludhianvi, 'Twentysixth January'

Birendra Chattopadhyay, 'After Death: Twenty Years' and

Sankha Ghosh, 'Rehabilitation', in Rakhshanda Jalil, Tarun Saint and Debjani Sengupta (eds) *Looking Back: The 1947 Partition of India 70 Years On*, New Delhi: Orient Blackswan, 2017

End Semester Question Pattern:

Objective – 5 marks

One question of 15 marks from novel (out of two)

Two questions of 15 marks each from short stories (out of three)

One question of 15 marks from poetry (out of two)

DSEB2 (SEMESTER 6, CODE – ENG-G-DSEB-6-2-TH/TU) - 6 CREDITS  
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

### TRANSLATION STUDIES

Unit 1 – Importance of translation in a multi-linguistic and multi-cultural society

Unit 2 – Literal translation

Unit 3 – Free translation

Unit 4 – Transcreation

End Semester Question Pattern:

Questions may include (1) translation from one language to another (2) critical comments on a translated passage/poem (3) differences between literal translation and free translation (4) why translation is necessary into other Indian languages and also to foreign languages

### Suggested Readings

1. Jyoti Bhattacharya, *Transcreations: Some Experiments on Tagore Songs*, Kolkata: Gangchil
2. Mona Baker, *In Other Words: A Coursebook on Translation*, Routledge, 2001.
3. I.C. Catford, *A Linguistic Theory of Translation*, London: OUP, 1965.
4. Ravinder Gargesh and Krishna Kumar Goswami eds. *Translation and Interpreting: Reader and Workbook*, New Delhi: Orient Longman, 2007.
5. Sukanta Chaudhuri, *Translation and Understanding*, New Delhi: OUP
6. Lawrence Venuti (ed), *The Translation Studies Reader*, London and New York: Routledge, 2012

### AECC1 – COMMUNICATIVE ENGLISH (SEMESTER 1) – 2 CREDITS

- Correction of sentences
- Transformation (Simple, Complex and Compound Sentences; Degrees of Comparison; Affirmative and Negative Sentences; Interrogative and Assertive Sentences; Exclamatory and Assertive Sentences)
- Identifying True/False Statements from Given Passages

Internal – 10 marks

Attendance – 10 marks

End Semester Questions – MCQ 80 marks

End Semester Question Patterns:

Correction of Sentences: 20 (2 x 10)

Transformation of Sentences: 20 (2 x 10)

True/False Statements from Given Passage One: 20 (4 x 5)

True/False Statements from Given Passage Two: 20 (4 x 5)

### SECA1 – ENGLISH LANGUAGE TEACHING (SEMESTER 3/5, CODE –ENG-G-SEC-A-3/5-1-TH) – 2 CREDITS

Language Perspectives: First Language Second Language and Foreign Language – Acquisition and Learning

Knowing the Learner: Features of a good language learner

Structure of the English Language

Methods of Teaching English Language

Assessing Language Skills

## Materials for Language Teaching

End Semester Question Pattern: To be finalised later

Suggested Readings:

1. Penny Ur, *A Course in Language Teaching: Practice and Theory*, Cambridge: CUP, 1996
2. Marianne Celce-Murcia, Donna M. Brinton and Marguerite Ann Snow, *Teaching English as a Second or Foreign Language*, Delhi: Cengage Learning, 2014.
3. Mohammad Aslam, *Teaching of English*, New Delhi: CUP, 2013.
4. Daine Larsen-Freeman, *Techniques and Principles in Language Teaching*: Oxford: OUP, 1986
5. Geetha Nagaraj, *English Language Teaching*, New Delhi: Orient BlackSwan, 2010
6. J.C. Richards and T.S. Rodgers, *Approaches and Methods in Language Teaching*, Cambridge: CUP, 2001

## SECA2– BUSINESS COMMUNICATION (SEMESTER 3/5, CODE – ENG-G-SEC-A-3/5-1-TH) - 2 CREDITS

What is business communication

Writing reports, letters, curriculum vitae

Writing meeting minutes

E-correspondence

End Semester Question Pattern:

Writing Business Letters – 15 marks

Writing CV – 15 marks

Writing e-mail – 15 marks

Writing Report – 15 marks

Writing Meeting Minutes – 20

Suggested Readings:

1. O. Scot, *Contemporary Business Communication*, New Delhi: Biztantra
2. R. Ludlow and F. Panton, *The Essence of Effective Communications*, New Delhi: Prentice Hall of India Pvt Ltd
3. R.C. Bhatia, *Business Communication*, New Delhi: Ane Books Private Limited

## SECB1– SPOKEN ENGLISH (SEMESTER 4/6, CODE – ENG-G-SEC-B-4/6-1-TH) – 2 CREDITS

Differences between Speech and Writing

Features of Oral Communication

Essentials of Good Communication

Stress, Intonation, Voice Modulation, Rules of Interruption in Civil Discourses



Greeting, Leave-taking, Making and Granting/Refusing Requests, Queries and Giving Information, Narrating Events  
Complaints and Apologies, Alerting and Warning  
Interview, Debate, Anchoring, Public Address

End Semester Question Pattern: To be finalised later

Suggested Readings:

1. W.S. Allen, *Lining English Speech*, London: Orient Longman, 1968
2. R.K. Bansal and J.B. Harrison, *Spoken English for India*, Madras: Orient Longman, 1972
3. Leena Sen, *Communication Skills*, New Delhi: Prentice Hall of India

#### SECB2– CREATIVE WRITING

(SEMESTER 4/6, CODE – ENG-G-SEC-B-4/6-1-TH) – 2 CREDITS

What is creative writing  
Modes of creative writing  
Writing Short Story / Poetry  
Preparing for publication

End Semester Question Pattern:

Questions may include (1) the importance of creative writing in development of personality and creativity (2) actual creative writing – poem or short story (3) different modes of publishing – viz. books, articles in newspapers, articles in magazines and periodicals, social media – and differences of impact

Suggested Readings:

1. Anjana Neira Dev *et al*, *Creative Writing: A Beginner's Manual*, New Delhi: Pearson, 2009.
2. David Morley and Philip Neilsen eds., *The Cambridge Companion to Creative Writing*



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
✓ 19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar



# **CBCS Syllabus for Undergraduate Courses in Geography**

---

TO BE EFFECTIVE FROM THE ACADEMIC SESSION 2018-19



**University of Calcutta**  
May, 2018

*Note: This page is intentionally kept blank for duplex printing*

## Choice Based Credit System (CBCS): Syllabus of Geography

**INTRODUCTION:** In compliance with recent directives from the University Grants Commission, the undergraduate syllabus for Geography is reframed into Choice Based Credit System largely following the model syllabus prepared by the West Bengal State Council of Higher Education.

The main objective of this new curriculum is to give the students a holistic understanding of the subject, putting equal weightage to the core content and techniques used in Geography. The syllabus tries to give equal importance to the two main branches of Geography: Physical and Human.

The principal goal of the syllabus is to enable the students to secure a job at the end of the undergraduate programme. Keeping this in mind and in tune with the changing nature of Geography, adequate emphasis is rendered on applied aspects of the subject such as emerging techniques of mapping and field-based data generation, especially in the honours course. The syllabus emphasises on development of basic skills of the subject, so that everyone need not go for higher studies in search of professional engagement or employment.

**LEARNING OUTCOMES:** This syllabus is designed to impart basic knowledge on geography as a spatial science and train the undergraduates to secure employment in the sectors of geospatial analysis, development and planning, mapping, and surveying.

## Contents

<b>1. Scheme for the CBCS Curriculum .....</b>	<b>5</b>
1.1 Credit Distribution across Courses: Honours Course .....	5
1.2 Credit Distribution across Courses: General Course .....	5
1.3 Suggested Mark-wise Class Distribution .....	5
1.4 Honours Course: Core Subjects .....	6
1.5 Honours Course: Choices for Four Discipline Specific Electives .....	6
1.6 Honours Course: Choices for Two Skill Enhancement Courses .....	6
1.7 General Course: Core Subjects .....	6
1.8 General Course: Choices for Two Discipline Specific Electives .....	7
1.9 General Course: Choices for Two Skill Enhancement Courses .....	7
1.10 Credits and Marks Distribution Scheme for CBCS Curriculum: Honours Course .....	8
1.11 Credits and Marks Distribution Scheme for CBCS Curriculum: General Course .....	10
<b>2. Honours Course: Core Subjects .....</b>	<b>12</b>
2.1 GEO-A-CC-1-01-TH – Geotectonics and Geomorphology .....	12
2.2 GEO-A-CC-1-01-P – Geotectonics and Geomorphology Lab .....	13
2.3 GEO-A-CC-1-02-TH – Cartographic Techniques .....	14
2.4 GEO-A-CC-1-02-P – Cartographic Techniques Lab .....	15
2.5 GEO-A-CC-2-03-TH – Human Geography .....	16
2.6 GEO-A-CC-2-03-P – Human Geography Lab .....	17
2.7 GEO-A-CC-2-04-TH – Thematic Mapping and Surveying .....	18
2.8 GEO-A-CC-2-04-P – Thematic Mapping and Surveying Lab .....	19
2.9 GEO-A-CC-3-05-TH – Climatology .....	20
2.10 GEO-A-CC-3-05-P – Climatology Lab .....	21
2.11 GEO-A-CC-3-06-TH – Hydrology and Oceanography .....	22
2.12 GEO-A-CC-3-06-P – Hydrology and Oceanography Lab .....	23
2.13 GEO-A-CC-3-07-TH – Statistical Methods in Geography .....	24
2.14 GEO-A-CC-3-07-P – Statistical Methods in Geography Lab .....	25
2.15 GEO-A-CC-4-08-TH – Economic Geography .....	26
2.16 GEO-A-CC-4-08-P – Economic Geography Lab .....	27
2.17 GEO-A-CC-4-09-TH – Regional Planning and Development .....	28
2.18 GEO-A-CC-4-09-P – Regional Planning and Development Lab .....	29
2.19 GEO-A-CC-4-10-TH – Soil and Biogeography .....	30

2.20	GEO-A-CC-4-10-P – Soil and Biogeography Lab .....	31
2.21	GEO-A-CC-5-11-TH – Research Methodology and Fieldwork .....	32
2.22	GEO-A-CC-5-11-P – Research Methodology and Fieldwork Lab .....	33
2.23	GEO-A-CC-5-12-TH – Remote Sensing, GIS and GNSS .....	35
2.24	GEO-A-CC-5-12-P – Remote Sensing, GIS and GNSS Lab .....	36
2.25	GEO-A-CC-6-13-TH – Evolution of Geographical Thought .....	38
2.26	GEO-A-CC-6-13-P – Evolution of Geographical Thought Lab .....	39
2.27	GEO-A-CC-6-14-TH – Hazard Management .....	40
2.28	GEO-A-CC-6-14-P – Hazard Management Lab .....	41
<b>3.</b>	<b>Honours Course: Discipline Specific Electives .....</b>	<b>42</b>
3.1	GEO-A-DSE-A-5-01-TH – Fluvial Geomorphology .....	42
3.2	GEO-A-DSE-A-5-01-P – Fluvial Geomorphology Lab .....	43
3.3	GEO-A-DSE-A-5-02-TH – Climate Change: Vulnerability and Adaptations .....	44
3.4	GEO-A-DSE-A-5-02-P – Climate Change: Vulnerability and Adaptations Lab .....	45
3.5	GEO-A-DSE-A-6-03-TH – Environmental Issues in Geography .....	46
3.6	GEO-A-DSE-A-6-03-P – Environmental Issues in Geography Lab .....	47
3.7	GEO-A-DSE-A-6-04-TH – Resource Geography .....	48
3.8	GEO-A-DSE-A-6-04-P – Resource Geography Lab .....	49
3.9	GEO-A-DSE-B-5-05-TH – Cultural and Settlement Geography .....	50
3.10	GEO-A-DSE-B-5-05-P – Cultural and Settlement Geography Lab .....	51
3.11	GEO-A-DSE-B-5-06-TH – Social Geography .....	52
3.12	GEO-A-DSE-B-5-06-P – Social Geography Lab .....	53
3.13	GEO-A-DSE-B-6-07-TH – Urban Geography .....	54
3.14	GEO-A-DSE-B-6-07-P – Urban Geography Lab .....	55
3.15	GEO-A-DSE-B-6-08-TH – Geography of India .....	56
3.16	GEO-A-DSE-B-6-08-P – Geography of India Lab .....	57
<b>4.</b>	<b>Honours Course: Skill Enhancement Electives .....</b>	<b>58</b>
4.1	GEO-A-SEC-A-3-01-TH – Coastal Management .....	58
4.2	GEO-A-SEC-A-3-02-TH – Tourism Management .....	59
4.3	GEO-A-SEC-B-4-03-TH – Rural Development .....	60
4.4	GEO-A-SEC-B-4-04-TH – Sustainable Development .....	61
<b>5.</b>	<b>General Course: Core Subjects .....</b>	<b>62</b>
5.1	GEO-G-CC-1-01-TH – Physical Geography .....	62
5.2	GEO-G-CC-1-01-P – Physical Geography Lab .....	63
5.3	GEO-G-CC-2-02-TH – Environmental Geography .....	64
5.4	GEO-G-CC-2-02-P – Environmental Geography Lab .....	65
5.5	GEO-G-CC-3-03-TH – Human Geography .....	66
5.6	GEO-G-CC-3-03-P – Human Geography Lab .....	67
5.7	GEO-G-CC-4-04-TH – Cartography .....	68
5.8	GEO-G-CC-4-04-P – Cartography Lab .....	69
<b>6.</b>	<b>General Course: Discipline Specific Electives .....</b>	<b>70</b>
6.1	GEO-G-DSE-A-5-01-TH – Regional Development .....	70
6.2	GEO-G-DSE-A-5-01-P – Regional Development Lab .....	71
6.3	GEO-G-DSE-A-5-02-TH – Geography of Tourism .....	72
6.4	GEO-G-DSE-A-5-02-P – Geography of Tourism Lab .....	73
6.5	GEO-G-DSE-B-6-03-TH – Agricultural Geography .....	74
6.6	GEO-G-DSE-B-6-03-P – Agricultural Geography Lab .....	75
6.7	GEO-G-DSE-B-6-04-TH – Population Geography .....	76
6.8	GEO-G-DSE-B-6-04-P – Population Geography Lab .....	77
<b>7.</b>	<b>General Course: Skill Enhancement Electives .....</b>	<b>78</b>
7.1	GEO-G-SEC-A-3/4-01-TH – Coastal Management .....	78
7.2	GEO-G-SEC-A-3/4-02-TH – Forest and Wildlife Management .....	80
7.3	GEO-G-SEC-B-5/6-03-TH – Rural Development .....	80
7.4	GEO-G-SEC-B-5/6-04-TH – Sustainable Development .....	81

# 1. Scheme for the CBCS Curriculum

## 1.1 Credit Distribution across Courses: Honours Course

Course Type	Total Papers	Credits	
		THEORY + PRACTICAL	THEORY + TUTORIAL*
<b>S-CC</b> Core Courses: Geography Honours	14	$14 \times 4 = 56$ $14 \times 2 = 28$	— —
<b>S-DSE</b> Discipline (Geography) Specific Electives	4	$4 \times 4 = 16$ $4 \times 2 = 08$	— —
<b>S-GE</b> Generic Electives: Two disciplines other than Geography	4	$4 \times 4 = 16$ $4 \times 2 = 08$	$4 \times 5 = 20$ $4 \times 1 = 04^*$
<b>AECC</b> Ability Enhancement Courses	2	$2 \times 2 = 04$	—
<b>S-SEC</b> Skill Enhancement Courses: from geography and/or other disciplines	2	$2 \times 2 = 04$	—
Total	26	140	—

\*Tutorials of 1 Credit will be conducted in case there is no practical component (Generic Electives from BA courses)

## 1.2 Credit Distribution across Courses: General Course

Course Type	Total Papers	Credits	
		THEORY + PRACTICAL	THEORY + TUTORIAL*
<b>G-CC</b> Core Course: Geography and two other disciplines	12	$12 \times 4 = 48$ $12 \times 2 = 24$	$12 \times 5 = 60$ $12 \times 1 = 12^*$
<b>G-DSE</b> Discipline Specific Electives: Geography and two other disciplines	6	$6 \times 4 = 24$ $6 \times 2 = 12$	$6 \times 5 = 30$ $6 \times 1 = 06^*$
<b>AECC</b> Ability Enhancement Course	2	$2 \times 2 = 04$	$2 \times 2 = 04$
<b>G-SEC</b> Skill Enhancement Course: from geography and/or other disciplines	4	$4 \times 2 = 08$	$4 \times 2 = 08$
Total	24	120	120

\*Tutorials of 1 Credit will be conducted in case there is no practical component

## 1.3 Suggested Mark-wise Class Distribution (apart from SECs)

Type of Course	Marks	Number of Periods	Duration of Periods
Theory (TH)	60	60	40~45 minutes
Practical (P)	30	60	40~45 minutes

## 1.4 Honours Course: Core Subjects

- GEO-A-CC-1-01-TH/P – Geotectonics and Geomorphology
- GEO-A-CC-1-02-TH/P – Cartographic Techniques
- GEO-A-CC-2-03-TH/P – Human Geography
- GEO-A-CC-2-04-TH/P – Cartograms, Thematic Mapping and Surveying
- GEO-A-CC-3-05-TH/P – Climatology
- GEO-A-CC-3-06-TH/P – Hydrology and Oceanography
- GEO-A-CC-3-07-TH/P – Statistical Methods in Geography
- GEO-A-CC-4-08-TH/P – Economic Geography
- GEO-A-CC-4-09-TH/P – Regional Planning and Development
- GEO-A-CC-4-10-TH/P – Soil and Biogeography
- GEO-A-CC-5-11-TH/P – Research Methodology and Fieldwork
- GEO-A-CC-5-12-TH/P – Remote Sensing, GIS and GNSS
- GEO-A-CC-6-13-TH/P – Evolution of Geographical Thought
- GEO-A-CC-6-14-TH/P – Disaster Management

## 1.5 Honours Course: Choices for Four Discipline Specific Electives <sup>1</sup>

- GEO-A-DSE-A-5-01-TH/P – Fluvial Geomorphology
- GEO-A-DSE-A-5-02-TH/P – Climate Change: Vulnerability and Adaptations
- GEO-A-DSE-B-5-05-TH/P – Cultural and Settlement Geography
- GEO-A-DSE-B-5-06-TH/P – Social Geography
- GEO-A-DSE-A-6-03-TH/P – Environmental Issues in Geography
- GEO-A-DSE-A-6-04-TH/P – Resource Geography
- GEO-A-DSE-B-6-07-TH/P – Urban Geography
- GEO-B-DSE-B-6-08-TH/P – Geography of India

## 1.6 Honours Course: Choices for Two Skill Enhancement Courses

- GEO-A-SEC-A-3-01-TH – Coastal Management
- GEO-A-SEC-A-3-02-TH – Tourism Management
- GEO-A-SEC-B-4-03-TH – Rural Development
- GEO-A-SEC-B-4-04-TH – Sustainable Development

## 1.7 General Course: Core Subjects

- GEO-G-CC-1-01-TH/P – Physical Geography
- GEO-G-CC-2-02-TH/P – Environmental Geography
- GEO-G-CC-3-03-TH/P – Human Geography
- GEO-G-CC-4-04-TH/P – Cartography

---

<sup>1</sup> Any two electives, one each from DSE-A and DSE-B, are to be chosen in each of Semesters-V and VI



### **1.8 General Course: Choices for Two Discipline Specific Electives**

GEO-G-DSE-A-5-01-TH/P – Regional Development

GEO-G-DSE-A-5-02-TH/P – Geography of Tourism

GEO-G-DSE-B-6-03-TH/P – Agricultural Geography

GEO-G-DSE-B-6-04-TH/P – Population Geography

### **1.9 General Course: Choices for Two Skill Enhancement Courses**

GEO-G-SEC-A-3/5-01-TH – Coastal Management

GEO-G-SEC-A-3/5-02-TH – Forest and Wildlife Management

GEO-G-SEC-B-4/6-03-TH – Rural Development

GEO-G-SEC-B-4/6-03-TH – Sustainable Development

### 1.10 Credits and Marks Distribution Scheme for CBCS Curriculum: Honours Course

Semester	Course Type	Paper Code and Name	Credits	Marks Distribution *						Marks per Qn Type	
				FULL MARKS	ATTENDANCE	INTERNAL ASSESSMENT	THEORETICAL EXAM	PRACTICAL EXAM		MCQ	LONG-ANSWER TYPE
								WRITTEN	PROJECT/VIVA		
I Marks: 400 Credits: 20	Ability Enhancement Compulsory Course - I	AECC-1 – Communicative Bengali / English / Hindi / Urdu	2	100	10	10	80	—	—	80	—
	Core Course - I	GEO-A-CC-1-01-TH – Geotectonics and Geomorphology	4	70	10	10	50	—	—	20	30
		GEO-A-CC-1-01-P – Geotectonics and Geomorphology Lab	2	30	—	—	—	25	5	—	20
	Core Course - II	GEO-A-CC-1-02-TH – Cartographic Techniques	4	70	10	10	50	—	—	20	30
		GEO-A-CC-1-02-P – Cartographic Techniques Lab	2	30	—	—	—	25	5	—	25
	Generic Elective - I	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
II Marks: 400 Credits: 20	Ability Enhancement Compulsory Course - II	AECC-2 – Environmental Studies	2	100	10	10	80	—	—	80	—
	Core Course - III	GEO-A-CC-2-03-TH – Human Geography	4	70	10	10	50	—	—	20	30
		GEO-A-CC-2-03-P – Human Geography Lab	2	30	—	—	—	25	5	—	20
	Core Course - IV	GEO-A-CC-2-04-TH – Cartograms, Thematic Mapping and Surveying	4	70	10	10	50	—	—	20	30
		GEO-A-CC-2-04-P – Cartograms, Thematic Mapping and Surveying Lab	2	30	—	—	—	25	5	—	25
	Generic Elective - II	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
III Marks: 500 Credits: 26	Core Course - V	GEO-A-CC-3-05-TH – Climatology	4	70	10	10	50	—	—	20	30
		GEO-A-CC-3-05-P – Climatology Lab	2	30	—	—	—	25	5	—	25
	Core Course - VI	GEO-A-CC-3-06-TH – Hydrology and Oceanography	4	70	10	10	50	—	—	20	30
		GEO-A-CC-3-06-P – Hydrology and Oceanography Lab	2	30	—	—	—	25	5	—	25
	Core Course - VII	GEO-A-CC-3-07-TH – Statistical Methods in Geography	4	70	10	10	50	—	—	20	30
		GEO-A-CC-3-07-P – Statistical Methods in Geography Lab	2	30	—	—	—	25	5	—	25
	Skill Enhancement Course - I	GEO-A-SEC-A-3-01-TH – Coastal Management / GEO-A-SEC-A-3-02-TH – Tourism Management	2	100	10	10	80	—	—		
	Generic Elective - III	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							

CURRICULUM SCHEME

Semester	Course Type	Paper ID and Name	Credits	Marks Distribution *						Marks per Qn Type	
				Full Marks	Attendance	Internal Assessment	Theoretical Exam	Practical Exam		MCQ	Long-Answer Type
								Written	Project/Viva		
<b>IV</b> Marks: 500 Credits: 26	Core Course - VIII	GEO-A-CC-4-08-TH – Economic Geography	4	70	10	10	50	—	—	20	30
		GEO-A-CC-4-08-P – Economic Geography Lab	2	30	—	—	—	25	5	—	25
	Core Course - IX	GEO-A-CC-4-09-TH – Regional Planning and Development	4	70	10	10	50	—	—	20	30
		GEO-A-CC-4-09-P – Regional Planning and Development Lab	2	30	—	—	—	25	5	—	25
	Core Course - X	GEO-A-CC-4-10-TH – Soil and Biogeography	4	70	10	10	50	—	—	20	30
		GEO-A-CC-4-10-P – Soil and Biogeography Lab	2	30	—	—	—	25	5	—	25
	Skill Enhancement Course - II	GEO-A-SEC-B-4-03-TH – Rural Development / GEO-A-SEC-B-4-04-TH – Sustainable Development	2	100	10	10	80	—	—		
	Generic Elective - IV	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
<b>V</b> Marks: 400 Credits: 24	Core Course - XI	GEO-A-CC-5-11-TH – Research Methodology and Fieldwork	4	70	10	10	50	—	—	20	30
		GEO-A-CC-5-11-P – Research Methodology and Fieldwork Lab	2	30	—	—	—	—	20+10	—	—
	Core Course - XII	GEO-A-CC-5-12-TH – Remote Sensing, GIS and GNSS	4	70	10	10	50	—	—	20	30
		GEO-A-CC-5-12-P – Remote Sensing, GIS and GNSS Lab	2	30	—	—	—	25	5	—	25
	Discipline Specific Elective - I	GEO-A-DSE-A-5-01/02-TH	4	70	10	10	50	—	—	20	30
		GEO-A-DSE-A-5-01/02-P	2	30	—	—	—	25	5	—	25
	Discipline Specific Elective - II	GEO-A-DSE-B-5-05/06-TH	4	70	10	10	50	—	—	20	30
		GEO-A-DSE-B-5-05/06-P	2	30	—	—	—	25	5	—	25
<b>VI</b> Marks: 400 Credits: 24	Core Course - XIII	GEO-A-CC-6-13-TH – Evolution of Geographical Thought	4	70	10	10	50	—	—	20	30
		GEO-A-CC-6-13-P – Evolution of Geographical Thought Lab	2	30	—	—	—	—	20+10	—	15
	Core Course - XIV	GEO-A-CC-6-14-TH – Disaster Management	4	70	10	10	50	—	—	20	30
		GEO-A-CC-6-14-P – Disaster Management Lab	2	30	—	—	—	—	20+10	—	—
	Discipline Specific Elective - III	GEO-A-DSE-A-6-03/04-TH	4	70	10	10	50	—	—	20	30
		GEO-A-DSE-A-6-03/04-P	2	30	—	—	—	25	5	—	25
	Discipline Specific Elective - IV	GEO-A-DSE-B-6-07/08-TH	4	70	10	10	50	—	—	20	30
		GEO-A-DSE-B-6-07/08-P	2	30	—	—	—	25	5	—	25

\*Tutorials of 1 Credit will be conducted in case there is no practical component

### 1.11 Credits and Marks Distribution Scheme for CBCS Curriculum: General Course

Semester	Course Type	Paper Code and Name	Credits	Marks Distribution *						Marks per Qn Type	
				FULL MARKS	ATTENDANCE	INTERNAL ASSESSMENT	THEORETICAL EXAM	PRACTICAL EXAM		MCQ	LONG-ANSWER TYPE
								WRITTEN	VIVA VOCE		
<b>I</b> Marks: 400 Credits: 20	Ability Enhancement Compulsory Course - I	AECC-1 – Communicative Bengali / English / Hindi / Urdu	2	100	10	10	80	—	—	80	—
	Core Course - I	GEO-G-CC-1-01-TH – Physical Geography	4	70	10	10	50	—	—	20	30
		GEO-G-CC-1-01-P – Physical Geography Lab	2	30	—	—	—	25	5	—	25
	Core Course - A1	TBD-TH	4/5								
		TBD-P/TU	2/1								
	Core Course - B1	TBD-TH	4/5								
		TBD-P/TU	2/1								
<b>II</b> Marks: 400 Credits: 20	Ability Enhancement Compulsory Course -II	AECC-2 – Environmental Studies	2	100	10	10	80	—	—	80	—
	Core Course - II	GEO-G-CC-2-02-TH – Environmental Geography	4	70	10	10	50	—	—	20	30
		GEO-G-CC-2-02-P – Environmental Geography Lab	2	30	—	—	—	25	5	—	25
	Core Course - A2	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
	Core Course - B2	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
<b>III</b> Marks: 400 Credits: 20	Core Course - III	GEO-G-CC-3-03-TH – Human Geography	4	70	10	10	50	—	—	20	30
		GEO-G-CC-3-03-P – Human Geography Lab	2	30	—	—	—	25	5	—	25
	Core Course - A3	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
	Core Course - B3	TBD-TH	4/5	70/85							
		TBD-P/TU	2/1	30/15							
	Skill Enhancement Course - I	GEO-G-SEC-A-3/5-01-TH – Coastal Management / GEO-G-SEC-A-3/5-02-TH – Forest and Wildlife Management	2	100	10	10	80	—	—		

CURRICULUM SCHEME

Semester	Course Type	Paper ID and Name	Credits	Marks Distribution *						Marks per Qn Type	
				Full Marks	Attendance	Internal Assessment	Theoretical Exam	Practical Exam		MCQ	Long-Answer Type
								Written	Viva Voce		
IV Marks: 400 Credits: 20	Core Course - IV	GEO-G-CC-4-04-TH – Cartography	4	70	10	10	50	—	—	20	30
		GEO-G-CC-4-04-P – Cartography Lab	2	30	—	—	—	25	5	—	25
	Core Course - A4	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Core Course - B4	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Skill Enhancement Course - II	GEO-G-SEC-B-4/6-03-TH – Rural Development / GEO-G-SEC-B-4/6-04-TH – Sustainable Development	2	100	10	10	80	—	—		
V Marks: 400 Credits: 20	Discipline Specific Elective - I	GEO-G-DSE-A-5-01/02-TH	4	70	10	10	50	—	—	20	30
		GEO-G-DSE-A-5-01/02-P	2	30	—	—	—	25	5	—	25
	Discipline Specific Elective - A1	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Discipline Specific Elective - B1	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Skill Enhancement Course - III	GEO-G-SEC-A-3/5-01-TH – Coastal Management / GEO-G-SEC-A-3/5-02-TH – Forest and Wildlife Management	2	100	10	10	80	—	—		
VI Marks: 400 Credits: 20	Discipline Specific Elective - II	GEO-G-DSE-B-6-03/04-TH	4	70	10	10	50	—	—	20	30
		GEO-G-DSE-B-6-03/04-P	2	30	—	—	—	25	5	—	25
	Discipline Specific Elective - A2	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Discipline Specific Elective - B2	TBD-TH	4/5	70/85							
		TBD-P/T	2/1	30/15							
	Skill Enhancement Course - IV	GEO-G-SEC-B-4/6-03-TH – Rural Development / GEO-G-SEC-B-4/6-04-TH – Sustainable Development	2	100							

\*Tutorials of 1 Credit will be conducted in case there is no practical component

## 2. HONOURS COURSE: CORE SUBJECTS

### 2.1 GEO-A-CC-1-01-TH – Geotectonics and Geomorphology ✧ 60 Marks\* / 4 Credits

#### Unit I: Geotectonics

1. Earth's tectonic and structural evolution with reference to geological time scale [3]
2. Earth's interior with special reference to seismology. Isostasy: Models of Airy, Pratt, and their applicability [3]
3. Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots [10]
4. Folds and Faults—origin and types. [4]

#### Unit II: Geomorphology

5. Degradational processes: Weathering, mass wasting, and resultant landforms [5]
6. Processes of entrainment, transportation, and deposition by different geomorphic agents. Role of humans in landform development [4]
7. Development of river network and landforms on uniclinal and folded structures. Surface expression of faults [7]
8. Development of river network and landforms on granites, basalts and limestones [4]
9. Coastal processes and landforms [4]
10. Glacial and glacio-fluvial processes and landforms [4]
11. Aeolian and fluvio-aeolian processes and landforms [4]
12. Role of time in geomorphology: Schumm and Lichty's model. Models on landscape evolution: Views of Davis, Penck, King, and Hack. Significance of systems approach [8]

#### References

##### BOOKS:

- Billings, M.P. 1971. Structural Geology, Pearson.
- Frisch, W., Meschede, M., Blakey, R.C. 2011. Plate Tectonics: Continental Drift and Mountain Building, Springer.
- Goudie, A.S. (Ed) 2004. Encyclopaedia of Geomorphology, vol. 1 & 2, Routledge.
- Gregory, K.J., Lewin, J. 2014. The Basics of Geomorphology: Key Concepts, Sage.
- Harvey, A. 2012. Introducing Geomorphology: A Guide to Landforms and Processes, Dunedin Academic Press.
- Kale, V.S., Gupta, A. 2001. Introduction to Geomorphology, Orient Longman.
- Kearey, P., Klepeis, K.A., Vine, F.J. 2011. Global Tectonics, 3rd ed, Wiley-India.
- Knighton, A.D. 1984. Fluvial Forms and Processes, Edward Arnold.
- McCullagh, P. 1978. Modern Concepts in Geomorphology, Oxford University Press.
- Selby, M.J. 1986. Earth's Changing Surface, Oxford University Press.

---

\* Excluding 10 marks for attendance

Strahler, A. 2016. *Introducing Physical Geography*, 6th ed, Wiley.

Summerfield, M.J. 2003. *Global Geomorphology: An Introduction to the Study of landforms*, Longman.

Thornbury, W.D. 1969. *Principles of Geomorphology*, 2nd ed, Wiley-India / CBS.

#### WEBSITES:

British Society for Geomorphology: [geomorphology.org.uk](http://geomorphology.org.uk)

Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)

Indian Institute of Geomorphologists: [www.indiageomorph.org](http://www.indiageomorph.org)

International Association of Geomorphologists: [www.geomorph.org](http://www.geomorph.org)

Paleomap Project: [www.scotese.com](http://www.scotese.com) & [www.youtube.com/user/cscotese](http://www.youtube.com/user/cscotese)

'This Dynamic Earth' (USGS): [pubs.usgs.gov/gip/dynamic/dynamic.html](http://pubs.usgs.gov/gip/dynamic/dynamic.html)

## 2.2 **GEO-A-CC-1-01-P – Geotectonics and Geomorphology Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Measurement of dip and strike using clinometer [6]
2. Megascopic identification of (a) *mineral samples*: Bauxite, calcite, chalcopryite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and (b) *rock samples*: Granite, basalt, dolerite, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite, marble [14]
3. Extraction and interpretation of geomorphic information from Survey of India 1:50k topographical maps of plateau region: Construction of relief profiles (superimposed, projected, and composite). Delineation of drainage basins. Construction of relative relief map, slope map (Wentworth's method), drainage density map, stream ordering (Strahler), and bifurcation ratio on a drainage basin (c. 5' x 5') [35]
4. Construction of hypsometric curve and derivation of hypsometric integer of a drainage basin (c. 5' x 5') from Survey of India 1:50k topographical maps of plateau region [5]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

Farndon, J. 2012. *The Illustrated Guide to Rocks & Minerals*, Southwater.

McCullagh, P. 1978. *Modern Concept in Geomorphology*, Oxford University Press.

Pillent, C. 2002. *Smithsonian Handbooks: Rocks & Minerals*, Dorling Kindersley.

Sarkar, A. 2015. *Practical Geography: A Systematic Approach*, 3rd ed, Orient Blackswan Private Ltd.

Sen, P.K. 1989. *Geomorphological Analysis of Drainage Basin: An Introduction to Morphometric and Hydrological Parameters*, University of Burdwan.

Sorrell, C.A. *Rocks and Minerals: A Guide to Field Identification*, St. Martin's Press.

**2.3 GEO-A-CC-1-02-TH – Cartographic Techniques ✧ 60 Marks / 4 Credits**

1. Maps: Components and classification [4]
2. Concept and application of scales: Plain, comparative, diagonal and Vernier [8]
3. Coordinate systems: Polar and rectangular [6]
4. Concept of generating globe [2]
5. Grids: Angular and linear systems of measurement [5]
6. Bearing: Magnetic and true, whole-circle and reduced [5]
7. Concept of geoid and spheroid with special reference to Everest and WGS-84 [4]
8. Map projections: Classification, properties and uses [8]
9. Concept and significance of UTM projection [2]
10. Representation of data using dots, spheres and divided proportional circles [5]
11. Representation of data using isopleth, choropleth, and chorochromatic maps [5]
12. Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps [6]

**References****BOOKS**

- Kennedy, M., Kopp, S. 2001. Understanding Map Projections, Esri Press.
- Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. 2011. Map Use: Reading, Analysis, Interpretation, 7th ed, Esri Press.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Pearson II, F. 1990. Map Projections: Theory and Applications 2nd ed, CRC Press.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Vaidyanadhan, R., Subbarao, K.V. 2014. Landforms of India from Topomaps and Images, Geological Society of India.

**WEBSITES**

- Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)
- Indian National Cartographic Association: [www.incaindia.org](http://www.incaindia.org)
- Indian Naval Hydrographic Department: [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)
- Land & Land Reforms and Refugee Relief and Rehabilitation Department, Gov. of West Bengal: [www.banglarbhumi.gov.in](http://www.banglarbhumi.gov.in)
- National Bureau of Soil Survey and Land Use planning: [www.nbsslup.in](http://www.nbsslup.in)
- Survey of India: [www.surveyofindia.gov.in](http://www.surveyofindia.gov.in)



## 2.4 **GEO-A-CC-1-02-P – Cartographic Techniques Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Graphical construction of scales: Plain, comparative, diagonal and Vernier [16]
2. Construction of projections: Polar Zenithal Stereographic, Simple Conic with one standard parallel, Bonne's, Cylindrical Equal Area, and Mercator's [20]
3. Thematic maps: Proportional squares, pie diagrams with proportional circles, dots and spheres [12]
4. Thematic maps: Choropleth, isopleth, and chorochromatic maps [12]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- Kennedy, M., Kopp, S. 2001. Understanding Map Projections, Esri Press.
- Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. 2011. Map Use: Reading, Analysis, Interpretation, 7th ed, Esri Press.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Pearson II, F. 1990. Map Projections: Theory and Applications 2nd ed, CRC Press.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

## 2.5 **GEO-A-CC-2-03-TH – Human Geography** ✧ 60 Marks / 4 Credits

### Unit I: Nature and Principles

1. Nature, scope and recent trends. Elements of human geography [4]
2. Approaches to Human Geography: Resource, locational, landscape, environment [6]
3. Concept and classification of race. Ethnicity [5]
4. Space, society, and cultural regions (language and religion) [5]

### Unit II: Society, Demography and Ekistics

5. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming, and industrial society [6]
6. Human adaptation to environment: Case studies of Eskimo, Masai and Maori [4]
7. Population growth and distribution, composition; demographic transition [5]
8. Population–resource regions (Ackerman) [5]
9. Development–environment conflict [5]
10. Types and patterns of rural settlements [5]
11. Rural house types in India [5]
12. Morphology and hierarchy of urban settlements [5]

### References

- Chandna, R.C. 2016. Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers.
- Fouberg, E.H., Murphy, A.B., de Blij H.J. 2015. Human Geography: People, Place, and Culture, 11th ed, Wiley.
- Ghosh, S. 1998. Introduction to Settlement Geography, Sangam Books Ltd.
- Gould, W.T.S. 2015. Population and Development, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Knox, P.L., Marston, S.A. 2014. Human Geography: Places and Regions in Global Context, 6th ed, Pearson Education Limited.
- Knox, P.L., McCarthy, L.M. 2011. Urbanization: An Introduction to Urban Geography, 3rd ed, Pearson Education Ltd.
- Mandal, R.B. 2001. Introduction to Rural Settlement, 2nd ed, Concept Publishing Company.
- Majumdar, P.K. 2013. India's Demography: Changing Demographic Scenario in India, Rawat Publications.
- Moseley, W.G., Perramond, E., Hapke, H.M., Laris, P. 2013. An Introduction to Human-Environment Geography: Local Dynamics and Global Processes, Wiley-Blackwell.
- Norton, W. 2014. Human Geography, 8th ed, Oxford University Press.
- Pickering K. and Owen A. A. (1997): An Introduction to Global Environmental Issues, 2nd edition Rutledge, London.
- Rubenstein, J.M. 2016. The Cultural Landscape: An Introduction to Human Geography, 12th ed, Pearson Education Limited.
- Singh, R.Y. 2000. Geography of Settlements, Rawat Publication
- Short, R.J. 2017. Human Geography: A Short Introduction, 2nd ed, Oxford University Press.

## 2.6 **GEO-A-CC-2-03-P – Human Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Spatial variation in continent- or country-level religious composition by divided proportional circles [12]
2. Measuring arithmetic growth rate of population comparing two decadal datasets [15]
3. Types of age-sex pyramids (progressive, regressive, intermediate, and stationary): Graphical representation and analysis [20]
4. Nearest neighbour analysis from Survey of India 1:50k topographical maps of plain region (c. 5' x 5') [13]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- Hassan, M.I. 2005. Population Geography, Rawat publications.
- Knowles, R., Wareing, J. 1990. Economic and Social Geography, Made Simple Books.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.

## 2.7 **GEO-A-CC-2-04-TH – Thematic Mapping and Surveying** ✧60 Marks / 4 Credits

1. Concepts of rounding, scientific notation. Logarithm and anti-logarithm. Natural and log scales [4]
2. Concept of diagrammatic representation of data [2]
3. Preparation and interpretation of geological maps [5]
4. Preparation and interpretation of weather maps [5]
5. Preparation and interpretation land use land cover maps [5]
6. Preparation and interpretation of socio-economic maps [5]
7. Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, and NRSC / Bhuvan [5]
8. Basic concepts of surveying and survey equipment: Prismatic compass [5]
9. Basic concepts of surveying and survey equipment: Dumpy level [7]
10. Basic concepts of surveying and survey equipment: Theodolite [7]
11. Basic concepts of surveying and survey equipment: Abney level [5]
12. Basic concepts of surveying and survey equipment: Laser distance measurer [5]

### References

#### BOOKS:

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bolton. T. 2009 (reprint). Geological Maps: Their Solution and Interpretation, Cambridge Univ. Press.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Gupitill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press

#### WEBSITES:

- Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)
- Indian Naval Hydrographic Department: [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)
- National Bureau of Soil Survey and Land Use planning: [www.nbsslup.in](http://www.nbsslup.in)
- Survey of India: [www.surveyofindia.gov.in](http://www.surveyofindia.gov.in)
- ISRO Bhuvan 2D Platform: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)
- National Remote Sensing Centre: [www.nrsc.gov.in](http://www.nrsc.gov.in)

**2.8 GEO-A-CC-2-04-P – Thematic Mapping and Surveying Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Traverse survey using prismatic compass [10]
2. Profile survey using dumpy Level [12]
3. Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite [18]
4. Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions [20]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bolton. T. 2009 (reprint). Geological Maps: Their Solution and Interpretation, Cambridge University Press.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press

## 2.9 **GEO-A-CC-3-05-TH – Climatology** ✧ 60 Marks / 4 Credits

### Unit I: Elements of the Atmosphere

1. Nature, composition and layering of the atmosphere [4]
2. Insolation: Controlling factors. Heat budget of the atmosphere [6]
3. Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences [6]
4. Overview of climate change: Greenhouse effect. Formation, depletion, and significance of the ozone layer [4]

### Unit II: Atmospheric Phenomena and Climatic Classification

5. Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation [6]
6. Air mass: Typology, origin, characteristics and modification [4]
7. Fronts: Warm and cold, frontogenesis, and frontolysis [5]
8. Weather: Stability and instability, barotropic and baroclinic conditions [5]
9. Circulation in the atmosphere: Planetary winds, jet streams, index cycle [5]
10. Atmospheric disturbances: Tropical and mid-latitude cyclones, thunderstorms [5]
11. Monsoon circulation and mechanism with reference to India [5]
12. Climatic classification after Thornthwaite (1955) and Oliver [5]

### References

#### BOOKS:

Ahrens, C.D. 2012. Essentials of Meteorology: An Invitation to the Atmosphere. 9th Ed, Cengage Learning.

Barry, R.G, Chorley R.J. 2009. Atmosphere Weather and Climate. 9th ed, Routledge.

Critchfield, H. J. 1983. General Climatology. Prentice Hall India Ltd (2010 Reprint).

Lal, D.S. 2012. Climatology. Sharda Pustak Bhawan.

Lutgens, F.K., Tarbuck, E.J. 1998. The Atmosphere: An Introduction to Meteorology, 9th ed, Prentice-Hall Inc.

Oliver, J.E., Hidore J.J. 2002. Climatology: An Atmospheric Science, Pearson Education India

#### WEBSITES:

India Meteorological Department: [www.imd.gov.in](http://www.imd.gov.in)

Intergovernmental Panel on Climate Change: [www.ipcc.ch](http://www.ipcc.ch)

World Bank Climate Change Knowledge Portal: [sdwebx.worldbank.org/climateportal/index.cfm](http://sdwebx.worldbank.org/climateportal/index.cfm)

World Meteorological Organization: [public.wmo.int/en](http://public.wmo.int/en)

**2.10 GEO-A-CC-3-05-P – Climatology Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Measurement of weather elements using analogue instruments: Mean daily temperature, air pressure, relative humidity, and rainfall [15]
2. Interpretation of a daily weather map of India (any two): Pre-Monsoon, Monsoon, and Post-Monsoon [20]
3. Construction and interpretation of hythergraph and climograph (G. Taylor) [15]
4. Construction and interpretation of wind rose [10]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan.

Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

##### WEBSITE:

India Meteorological Department: [www.imd.gov.in](http://www.imd.gov.in)

**2.11 GEO-A-CC-3-06-TH – Hydrology and Oceanography** ✧ 60 Marks / 4 Credits**Unit-I: Hydrology**

1. Systems approach in hydrology. Global hydrological cycle: Its physical and biological role [5]
2. Run off: controlling factors. Infiltration and evapotranspiration. Run off cycle [5]
3. Drainage basin as a hydrological unit. Principles of water harvesting and watershed management [5]
4. Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement [5]

**Unit-II: Oceanography**

5. Major relief features of the ocean floor: Characteristics and origin according to plate tectonics [6]
6. Physical and chemical properties of ocean water [4]
7. Water mass, T-S diagram [4]
8. Air-Sea interactions, ocean circulation, wave and tide [8]
9. Ocean temperature and salinity: Distribution and determinants [4]
10. Coral reefs: Formation, classification and threats [5]
11. Marine resources: Classification and sustainable utilisation [4]
12. Sea level change: Types and causes [5]

**References**

- Dingman, S.L. 2015. Physical Hydrology, 3rd ed, Macmillan Publishing Co.
- Fitts, C.R. 2002. Groundwater Science, Elsevier.
- Garrison, T. 2016. Oceanography: An Invitation to Marine Science, 9th ed, Cengage Learning.
- Kearey, P., Klepeis, K.A., Vine, F.J. 2011. Global Tectonics, 3rd ed, Wiley-India.
- Karanth, K.R., 1988: Ground Water: Exploration, Assessment and Development, Tata- McGraw Hill.
- Pinet, P.R. 2014. Invitation to Oceanography. 7th ed, Jones and Barlett Publishers.
- Pinneker, E.V. 2010. General Hydrogeology, Cambridge University Press.
- Pugh, D., Woodworth, P. 2014. Sea-Level Science: Understanding Tides, Surges, Tsunamis and Mean Sea-Level Changes, 2nd ed, Cambridge University press.
- Raghunath, H.M. 2006. Hydrology: Principles, Analysis, Design, 3rd ed, New Age International Publishers.
- Reddy, P.J.R. 2014. A Textbook of Hydrology, University of Science Press.
- Subramanya, K. 2013. Engineering Hydrology, McGraw Hill Education.
- Sverdrup, K.A., Armrest, E.V. 2010. An Introduction to the World Oceans, 10th ed, McGraw Hill.
- Todd, D.K., Larry, W.M. 2004. Groundwater Hydrology, John Wiley & Sons.
- Ward, A.D., Trimble, S.W., Burckhard, S.R., Lyon, J.G. 2016. Environmental Hydrology, 3rd ed, CRC Press.



**2.12 GEO-A-CC-3-06-P – Hydrology and Oceanography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Construction and interpretation of rating curves [10]
2. Construction and interpretation of hydrographs and unit hydrographs [15]
3. Construction and interpretation of monthly rainfall dispersion diagram (Quartile method), Climatic water budget and Ergograph [25]
4. Construction of Thiessen polygon from precipitation data [10]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### Books:

- Sen, P.K. 1989. Geomorphological Analysis of Drainage Basin: An Introduction to Morphometric and Hydrological Parameters, University of Burdwan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Raghunath, H.M. 2006. Hydrology: Principles, Analysis, Design, 3rd ed, New Age International Publishers.

##### WEBSITES:

- India Meteorological Department: [www.imd.gov.in](http://www.imd.gov.in)
- Central Water Commission: [cwc.gov.in](http://cwc.gov.in)

**2.13 GEO-A-CC-3-07-TH – Statistical Methods in Geography** ✧ 60 Marks / 4 Credits**Unit I: Frequency Distribution and Sampling**

1. Importance and significance of statistics in Geography [4]
2. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio) [5]
3. Sources of geographical data for statistical analysis [4]
4. Collection of data and preparation of statistical tables [5]
5. Sampling: Need, types, significance, and methods of random sampling [4]
6. Theoretical distribution: Frequency, cumulative frequency, normal, and probability [6]

**Unit II: Numerical Data Analysis**

7. Central tendency: Mean, median, mode, and partition values [6]
8. Measures of dispersion range, mean deviation, standard deviation, and coefficient of variation [6]
9. Association and correlation: Product moment correlation and rank correlation, [5]
10. Regression: Linear and non-linear [5]
11. Time series analysis: Moving average [5]
12. Hypothesis testing: Chi-square test and T-test [5]

**References**

- Acevedo, M.F. 2012. Data Analysis and Statistics for Geography, Environmental Science and Engineering, CRC Press.
- Harris, R., Jarvis, C. 2011. Statistics for Geography and Environmental Science, Prentice Hall.
- McGrew Jr., J.C., Lembo Jr., A.J., Monroe, C.B. 2014. An Introduction to Statistical Problem Solving in Geography, 3rd ed, Waveland Press.
- Pal S. K., 1998. Statistics for Geoscientists: Techniques and Applications, Concept Pub Co.
- Rogerson, P.A. 2015. Statistical Methods for Geography: A Student's Guide, 4th ed, Sage.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan.

**2.14 GEO-A-CC-3-07-P – Statistical Methods in Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Construction of data matrix with each row representing an areal unit (districts / blocks / mouzas / towns) and corresponding columns of relevant attributes [15]
2. Based on the above, a frequency table, measures of central tendency, and dispersion would be computed and interpreted using histogram and frequency curve [15]
3. From the data matrix, a sample set (20%) would be drawn using random, systematic, and stratified methods of sampling and the samples would be located on a map with an explanation of the methods used [15]
4. Based on the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Acevedo, M.F. 2012. Data Analysis and Statistics for Geography, Environmental Science and Engineering, CRC Press.
- Harris, R., Jarvis, C. 2011. Statistics for Geography and Environmental Science, Prentice Hall.
- McGrew Jr., J.C., Lembo Jr., A.J., Monroe, C.B. 2014. An Introduction to Statistical Problem Solving in Geography, 3rd ed, Waveland Press.
- Pal, S. K., 1998. Statistics for Geoscientists: Techniques and Applications, Concept Pub Co.
- Rogerson, P.A. 2015. Statistical Methods for Geography: A Student's Guide, 4th ed, Sage.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan.

**2.15 GEO-A-CC-4-08-TH – Economic Geography** ✧ 60 Marks / 4 Credits**Unit I: Concepts**

1. Meaning and approaches to economic geography [4]
2. Concepts in economic geography: Goods and services, production, exchange, and consumption [6]
3. Concept of economic man. Theories of choices [6]
4. Economic distance and transport costs [4]

**Unit II: Economic Activities**

5. Concept and classification of economic activities [4]
6. Factors affecting location of economic activity with special reference to agriculture (von Thünen), and industry (Weber) [6]
7. Primary activities: Agriculture, forestry, fishing, and mining [6]
8. Secondary activities: Classification of manufacturing, concept of manufacturing regions, special economic zones and technology parks [6]
9. Tertiary activities: Transport, trade and services [6]
10. Transnational sea-routes, railways and highways with reference to India [4]
11. International trade and economic blocs [4]
12. WTO and BRICS: Evolution, structure and functions [4]

**References**

## BOOKS:

- Aoyama, Y., Murphy, J.T., Hanson, S. 2010. Key Concepts in Economic Geography, Sage.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Wheeler, J.O., Muller, P.O., Thrall, G.I., Fik, T.J. 1998. Economic Geography, 3rd ed, Wiley.
- Willington D. E., 2008: Economic Geography, Husband Press.
- Wood, A., Roberts, A. 2010. Economic Geography: Places, Networks and Flows, Routledge.

## WEBSITES:

- BRICS: [www.brics2017.org/English](http://www.brics2017.org/English) & [www.brics2016.gov.in](http://www.brics2016.gov.in)
- World Trade Organisation: [www.wto.org](http://www.wto.org)

**2.16 GEO-A-CC-4-08-P – Economic Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Choropleth mapping of state-wise variation in GDP [10]
2. State-wise variation in occupational structure by proportional divided circles [15]
3. Time series analysis of industrial production (India and West Bengal) [20]
4. Transport network analysis by detour index and shortest path analysis [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata

Sharma, T.C. 2012. Economic Geography of India, Rawat Publications.

Saxena, H.M. 2005. Transport Geography, Rawat Publications.

##### WEBSITES:

Open Government of India Data Platform: [data.gov.in](https://data.gov.in)

Planning Commission (West Bengal Development Report 2010):

[planningcommission.nic.in/plans/stateplan/sdr/sdr\\_wb1909.pdf](https://planningcommission.nic.in/plans/stateplan/sdr/sdr_wb1909.pdf)

Trending Economics (India's industrial production):

[tradingeconomics.com/india/industrial-production](https://tradingeconomics.com/india/industrial-production)

Wikipedia (Hierarchy of states):

[en.wikipedia.org/wiki/List\\_of\\_Indian\\_states\\_and\\_union\\_territories\\_by\\_GDP\\_per\\_capita](https://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP_per_capita)

**2.17 GEO-A-CC-4-09-TH – Regional Planning and Development** ✧ 60 Marks / 4 Credits**Unit I: Regional Planning**

1. Regions: Concept, types, and delineation [4]
2. Regional Planning: Types, principles, objectives, tools and techniques [6]
3. Regional planning and multi-level planning in India [6]
4. Concept of metropolitan area and urban agglomeration [4]

**Unit I: Regional Development**

5. Concept of growth and development, growth versus development [6]
6. Indicators of development: Economic, demographic, and environmental [6]
7. Human development: Concept and measurement [4]
8. Theories and models for regional development: Cumulative causation (Myrdal) [4]
9. Models and theories in regional development: Stages of development (Rostow), growth pole model (Perroux) [6]
10. Underdevelopment: Concept and causes [4]
11. Regional development in India: Disparity and diversity [5]
12. Need and measures for balanced development in India [5]

**References**

- Bhargava, G. 2001. Development of India's Urban, Rural, and Regional Planning in 21st Century: Policy Perspective, Gyan Publishing House.
- Chand, M., Puri, V.K. 2000. Regional Planning In India, Allied Publishers Ltd.
- Chandana, R.C. 2016. Regional Planning and Development, 6th ed, Kalyani Publishers.
- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Gore, C. 2011. Regions in Question: Space, Development Theory, and Regional Policy, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Hall, P., Tewdwr-Jones, M. 2010. Urban and Regional Planning, Routledge.
- Higgins, B., Savoie, D.J. 2017. Regional Development: Theories and Their Application, Routledge.
- Kulshetra, S.K. 2012. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.
- Kulshetra, S.K. 2012. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.
- Kumar, A., Meshram, D.S., Gowda, K. (Eds) 2016. Urban and Regional Planning Education: Learning for India, Springer.
- Kumar, A., Meshram, D.S., Gowda, K. (Eds) 2016. Urban and Regional Planning Education: Learning for India, Springer.

- Misra, R.P. 1992. Regional Planning: Concepts, Techniques, Policies and Case Studies, Concept Publishing.
- Ray, J. 2001. Introduction to Development & Regional Planning, Orient Blackswan.
- Aoyama, Y., Murphy, J.T., Hanson, S. 2010. Key Concepts in Economic Geography, Sage.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Wheeler, J.O., Muller, P.O., Thrall, G.I., Fik, T.J. 1998. Economic Geography, 3rd ed, Wiley.
- Willington D. E., 2008: Economic Geography, Husband Press.
- Wood, A., Roberts, A. 2010. Economic Geography: Places, Networks and Flows, Routledge.

## 2.18 **GEO-A-CC-4-09-P – Regional Planning and Development Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Delineation of formal regions by weighted index method [15]
2. Delineation of functional regions by breaking point analysis [15]
3. Measurement of inequality by location quotient [15]
4. Measuring regional disparity by Sopher index [15]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Knowles, R, Wareing, J. 1990. Economic and Social Geography, Made Simple Books, Rupa.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

**2.19 GEO-A-CC-4-10-TH – Soil and Biogeography** ✧ 60 Marks / 4 Credits**Unit I: Soil Geography**

1. Factors of soil formation [3]
2. Definition and significance of soil properties: Texture, structure, and moisture [5]
3. Definition and significance of soil properties: pH, organic matter, and NPK [5]
4. Soil profile. Origin and profile characteristics of lateritic, podsol and chernozem soils [6]
5. Soil erosion and degradation: Factors, processes and management measures. Humans as active agents of soil transformation [5]
6. Principles of soil classification: Genetic and USDA. Concept of land capability and its classification [6]

**Unit II: Biogeography**

7. Concepts of biosphere, ecosystem, biome, ecotone, community and ecology [5]
8. Concepts of trophic structure, food chain and food web. Energy flow in ecosystems [5]
9. Classification of world biomes (Whittaker). Geographical extent and characteristics of tropical rain forest, savanna, hot desert, taiga and coral reef biomes [8]
10. Bio-geochemical cycles with special reference to carbon dioxide and nitrogen [4]
11. Deforestation: Causes, consequences and management [4]
12. Biodiversity: Definition, types, threats and conservation measures [4]

**References**

- Chapman J.L., Reiz, M.J. 1993. Ecology: Principle and Applications, Cambridge University Press.
- Chiras, D.D., Reganold, J.P. 2009. Natural Resource Conservation: Management for a Sustainable Future, 10th ed, Pearson.
- Cox, B., Moore, P.D., Ladle, R. 2016. Biogeography: An Ecological and Evolutionary Approach, 9th ed, Wiley-Blackwell.
- Daji, J.A., Kadam, J.R., Patil, N.D. 1996. A Textbook of Soil Science, Media Promoters and Publishers.
- Dash, M.C., 2001. Fundamental of Ecology, 2nd edition, Tata McGrawHill, New Delhi
- Dey, N. K., Ghosh. P. 1993. India: A Study in Soil Geography, Sribhumi Publishing Company.
- Franzmeier, D.P., McFee, W.W., Graveel, J.G., Kohnke, H. 2016. Soil Science Simplified, 5th ed, Waveland Press.
- Huggett, R. 1998. Fundamentals of Biogeography, Routledge, London:
- Lomolino, M.V., Riddle, B.R., Whittaker, R.J. 2016. Biogeography, 5th ed, Oxford University Press.
- MacDonald, G.2001. Biogeography: Introduction to Space, Time, and Life, Wiley
- Morgan, R.P.C. 1995. Soil Erosion and Conservation, 2nd edition, Longman.
- Santra. A. 2006. Handbook on Wild and Zoo Animals, International Book Distributing Co.
- Sharma, P.D. 2011. Ecology and Environment, Rastogi Publications.
- Singer, M., Munns, D.N. 2005. Soils: An Introduction, 6th ed, Pearson.
- Weil, R.R. and Brady, N.C. 2016. The Nature and Properties of Soil, 15th edition, Pearson.
- White, R. 2006. Principles and Practice of Soil Science: The Soil as a Natural Resource, Blackwell.
- Whittaker, R.H. 1975. Communities and Ecosystems, MacMillan.



**2.20 GEO-A-CC-4-10-P – Soil and Biogeography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Determination of soil reaction (pH) and salinity using field kit [15]
2. Determination of soil type by ternary diagram textural plotting [15]
3. Plant species diversity determination by matrix method [10]
4. Time series analysis of biogeography data [20]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Stohlgren, T.J. 2007. Measuring Plant Diversity: Lessons from the Field. Oxford University Press.
- USDA: United States Department of Agriculture. 2014. Soil Survey and Laboratory Methods Manual, Soil Survey Investigations Report No. 51.
- Walters, M., Scholes, R.J. (Eds.) 2017. The GEO Handbook on Biodiversity Observation Networks, Springer International Publishing.
- Xiao, M. 2009. Soil Testing Laboratory Manual, Bent Tree Press.

**2.21 GEO-A-CC-5-11-TH – Research Methodology and Fieldwork** ✧ 60 Marks / 4 Credits**Unit I: Research Methodology**

1. Research in Geography: Meaning, types and significance [5]
2. Literature review and formulation of research design [5]
3. Defining research problem, objectives and hypothesis [6]
4. Research materials and methods [4]
5. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract, and keywords [6]
6. Plagiarism: Classification and prevention [4]

**Unit II: Fieldwork**

7. Fieldwork in Geographical studies: Role and significance. Selection of study area and objectives. Pre-field academic preparations. Ethics of fieldwork [6]
8. Field techniques and tools: Observation (participant, non-participant), questionnaires (open, closed, structured, non-structured). Interview [5]
9. Field techniques and tools: Landscape survey using transects and quadrants, constructing a sketch, photo and video recording [5]
10. Positioning and collection of samples. Preparation of inventory from field data [4]
11. Post-field tabulation, processing and analysis of quantitative and qualitative data [5]
12. Fieldwork: Logistics and handling of emergencies [5]

**References**

- Clifford, N., Cope, M., Gillespie, T.W., French, S. (Eds) 2016. Key Methods in Geography, 3rd ed, Sage.
- Gomes, B., Jones III, J.P. (Eds) 2010. Research Methods in Geography: A Critical Introduction, Wiley-Blackwell.
- Lenon, B., Cleves, P. 2015. Geography Fieldwork and Skills, Harper-Collins.
- Montello, D.R., Sutton, P. 2012. An Introduction to Scientific Research Methods in Geography and Environmental Studies, 2nd ed, Sage.
- Murthy, K.L.N. 2004. Research Methodology in Geography: A Text Book, Concept Publishing Co.
- Northey, N., Draper, D., Knight, D.B. 2015. Making Sense in Geography and Environmental Sciences: A Student's Guide to Research and Writing, 6th ed, Oxford University Press.
- Parsons, T., Knight, P.G. 2015. How To Do Your Dissertation in Geography and Related Disciplines, 3rd ed, Routledge.
- Riordan, D. 2013. Technical Report Writing Today, 10th ed, Wadsworth Publishing.
- Phillips, R., Johns, J. 2012. Fieldwork for Human Geography, Sage.
- Thornbush, M.J., Allen, C.D., Fitzpatrick, F.A. (Eds) 2014. Geomorphological Fieldwork, Elsevier.

**2.22 GEO-A-CC-5-11-P – Research Methodology and Fieldwork Lab** ✧ 30 Marks / 2 Credits

*Every student needs to participate in fieldwork and prepare a field report according to the following guideline, failing which he/she will not be evaluated for GEO-A-CC-5-11-P.*

1. Each student will prepare a report based on primary data collected from field survey and secondary data collected from different sources.
2. Students will select either one rural area (*mouza*) or an urban area (municipal ward) for the study, with the primary objective of evaluating the relation between physical and cultural landscape.
3. A specific problem or a special feature should be identified based on which, the study area will be selected.
4. The report should be handwritten in English on A4 size paper in candidate's own words within 5,000 words (Introductory Chapter: 1000 words; Physical Aspects: 1500 words; Socio-economic Aspects: 1500 words; Concluding Chapter: 500 words, approximately) excluding tables, photographs, maps, diagrams, references and appendices.
5. Photographs, maps and diagrams should not exceed 15 pages.
6. A copy of the bound report, duly signed by the concerned teacher, will be submitted during examination.
7. The field work and post-field work will include:
  - a. Collection of primary data on physical aspects (relief and soil) of the study area. Students should use survey instruments like prismatic compass, dumpy level, Abney level or clinometer wherever necessary.
  - b. Collection of soil samples from different land cover land use regions of the study area for determining pH and NPK values with help of a soil kit.
  - c. Collection of socio economic data, at the household level (with the help of a questionnaire) in the selected study area.
  - d. Plot to plot land use survey for preparation of a land use map, covering whole or part of the selected area.
  - e. Visit to different organisations and departments for collection of secondary data.
  - f. Any other survey relevant to the objective of the study.
8. The Field Report should contain the following sections (a–e).
  - a. Introduction: Study area extent and space relations, reasons for selection of the study area on the basis of a specific problem or special feature, objectives, methods of data collection, analyses and presentation, sources of information, etc.
  - b. Physical aspects: Lithology and geological structure, relief, slope, drainage, climate, soil, vegetation, environmental issues, proneness to natural hazards, etc.
  - c. Socio-economic aspects:
    - i. Population attributes: Number, sex ratio, literacy, occupational structure, ethnic and religious composition, language, per capita income, etc.
    - ii. Settlement characteristics: Number of houses, building materials, number and size of rooms, amenities, etc.
    - iii. Agriculture: General land use, crop-combination, use of fertiliser and irrigational facilities, production and marketing etc.
    - iv. Other economic activities: Fishing, horticulture, brick-making, household and other industries, etc.

- d. Conclusions: Relation between physical and cultural landscape. Evaluation of problems and prospects. General recommendations.
  - e. Bibliography.
9. The students will prepare (i) a chorochromatic land use land cover map on the basis of plot to plot survey; (ii) a profile of suitable length, surveyed and plotted, with different land use land cover superimposed on it.
  10. All sections of the report should contain relevant maps, diagrams and photographs using primary and secondary data, clearly citing sources.
  11. All surveys should pertain to the objective of the study. Surveys not relevant for establishing the relation between physical and cultural landscape should be avoided.
  12. Marks division: 20 on report + 10 on viva-voce = 30

**2.23 GEO-A-CC-5-12-TH – Remote Sensing, GIS and GNSS** ✧ 30 Marks / 2 Credits**Unit I: Remote Sensing**

1. Principles of Remote Sensing (RS): Types of RS satellites and sensors [5]
2. Sensor resolutions and their applications with reference to IRS and Landsat missions [5]
3. Image referencing schemes and acquisition procedure of free geospatial data from NRSC / Bhuvan and USGS [5]
4. Preparation of False Colour Composites from IRS LISS-3 and Landsat TM / OLI data. [5]
5. Principles of image interpretation. Preparation of inventories of landuse land cover (LULC) features from satellite images [5]
6. Acquisition and utilisation of free Digital Elevation Model data: CartoDEM, SRTM and ALOS [5]

**Unit II: Geographical Information Systems and Global Navigation Satellite System**

7. GIS data structures types: Spatial and non-spatial, raster and vector [5]
8. Principles of preparing attribute tables, data manipulation, and overlay analysis [6]
9. Principles and significance of buffer preparation [4]
10. Principles and significance of overlay analysis [5]

**Unit III: Global Navigation Satellite System (GNSS)**

11. Principles of GNSS positioning and waypoint collection [5]
12. Principles of transferring of GNSS waypoints to GIS. Area and length calculations from GNSS data [5]

**References****BOOKS:**

- Bhatta, B. 2011. Global Navigation Satellite Systems: Insights into GPS, GLONASS, Galileo, Compass and Others, CRC Press.
- Bhatta, B. 2011. Remote Sensing and GIS, 2nd ed, Oxford Univ. Press.
- Bolstad, P. 2016. GIS Fundamentals: A First Text on Geographic Information Systems, 5th ed, XanEdu Publishing.
- Brewer, C.A. 2015. Designing Better Maps: A Guide for GIS Users, 2nd ed, Esri Press.
- Harvey, F. 2015. A Primer of GIS: Fundamental Geographic and Cartographic Concepts, 2nd ed, The Guilford Press.
- Jensen, J.R., 2013. Remote Sensing of the Environment: An Earth Resource Perspective, Pearson Education India.
- Joseph, G. and Jegannathan, C. 2018. Fundamentals of Remote Sensing, 3rd ed, Universities Press.
- Lillesand, T.M., Kiefer, R.W., Chipman, J.W. 2015. Remote Sensing and Image Interpretation, 7th ed, Wiley.
- Indian Space Research Organisation. 2017. Effective Use of Space Technology.

Sarkar, A. 2015. Practical Geography: A Systematic Approach. 2nd ed, Orient Black Swan Private Ltd.

#### WEBSITES:

ALOS Global Digital Surface Model: [www.eorc.jaxa.jp/ALOS/en/aw3d30/index.htm](http://www.eorc.jaxa.jp/ALOS/en/aw3d30/index.htm)

International Society for Photogrammetry and Remote Sensing: [www.isprs.org](http://www.isprs.org)

ISRO Bhuvan 2D and 3D Platforms: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)  
[bhuvan.nrsc.gov.in/globe/3d.php#](http://bhuvan.nrsc.gov.in/globe/3d.php#)

NASA Landsat Science: [www Landsat.gsfc.nasa.gov](http://www Landsat.gsfc.nasa.gov)

National Remote Sensing Centre: [www.nrsc.gov.in](http://www.nrsc.gov.in)

USGS Global Visualization Viewer: [www.glovis.usgs.gov](http://www.glovis.usgs.gov)

## 2.24 **GEO-A-CC-5-12-P – Remote Sensing, GIS and GNSS Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following is to be prepared and submitted. The exercises are to be represented as computer prints from Q-GIS / Garmin Basecamp / MS Excel software as applicable. Methods and interpretations are to be handwritten.*

1. Image georeferencing and enhancement. Preparation of reflectance libraries of LULC features across different image bands of IRS L3 or Landsat OLI data [15]
2. Supervised image classification, class editing, and post-classification analysis [15]
3. Digitisation of features and administrative boundaries. Data attachment, overlay, and preparation of annotated thematic maps [20]
4. Waypoint collection from GNSS receivers and exporting to GIS database [10]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

#### BOOKS:

Bhatta, B. 2011. Global Navigation Satellite Systems: Insights into GPS, GLONASS, Galileo, Compass and Others, CRC Press.

Bhatta, B. 2011. Remote Sensing and GIS, 2nd ed, Oxford Univ. Press.

Bolstad, P. 2016. GIS Fundamentals: A First Text on Geographic Information Systems, 5th ed, XanEdu Publishing.

Brewer, C.A. 2015. Designing Better Maps: A Guide for GIS Users, 2nd ed, Esri Press.

Chang, K-t. 2015. Introduction to Geographical Information System, McGraw-Hill Education.

Harvey, F. 2015. A Primer of GIS: Fundamental Geographic and Cartographic Concepts, 2nd ed, The Guilford Press.

Jensen, J.R., 2013. Remote Sensing of the Environment: An Earth Resource Perspective, Pearson Education India.

Joseph, G. and Jegannathan, C. 2018. Fundamentals of Remote Sensing, 3rd ed, Universities Press.

Lillesand, T.M., Kiefer, R.W., Chipman, J.W., 2015. Remote Sensing and Image Interpretation, 7th ed, Wiley.

Sarkar, A. 2015. Practical Geography: A Systematic Approach. 2nd ed, Orient Black Swan Private Ltd.

WEBSITES:

Garmin: [support.garmin.com/en-US/?productID=52801&tab=manuals](https://support.garmin.com/en-US/?productID=52801&tab=manuals)

International Society for Photogrammetry and Remote Sensing: [www.isprs.org](http://www.isprs.org)

ISRO Bhuvan 2D and 3D Platforms: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)  
[bhuvan.nrsc.gov.in/globe/3d.php#](http://bhuvan.nrsc.gov.in/globe/3d.php#)

NASA Landsat Science: [www Landsat.gsfc.nasa.gov](http://www Landsat.gsfc.nasa.gov)

National Remote Sensing Centre: [www.nrsc.gov.in](http://www.nrsc.gov.in)

Q-GIS: [qgis.org/en/site/forusers/index.html](http://qgis.org/en/site/forusers/index.html)

USGS Global Visualization Viewer: [www.glovis.usgs.gov](http://www.glovis.usgs.gov)

**2.25 GEO-A-CC-6-13-TH – Evolution of Geographical Thought** ✧ 60 Marks / 4 Credits**Unit I: Nature of Pre Modern Geography**

1. Development of pre-modern Geography: Contributions of Greek, Chinese, and Indian geographers [5]
2. Impact of 'Dark Age' in Geography and Arab contributions [5]
3. Geography during the age of 'Discovery' and 'Exploration' (contributions of Portuguese voyages, Columbus, Vasco da Gama, Magellan, Thomas Cook) [5]
4. Transition from cosmography to scientific Geography (contributions of Bernard Varenus and Immanuel Kant). Dualism and Dichotomies (General vs. Particular, Physical vs. Human, Regional vs. Systematic, Determinism vs. Possibilism, Ideographic vs. Nomothetic) [7]

**Unit II: Foundations of Modern Geography and Recent Trends**

5. Evolution of Geographical thoughts in Germany, France, Britain, and United States of America [5]
6. Contributions of Humboldt and Ritter [3]
7. Contributions of Richthofen, Hartshorne–Schaeffer, Ratzel, La Blaché [6]
8. Trends of geography in the post World War-II period: Quantitative revolution, systems approach [7]
9. Structuralism and historical materialism [3]
10. Changing concept of space with special reference to Harvey [5]
11. Evolution of Critical Geography: Behavioural, humanistic, and radical [5]
12. Towards post modernism: Geography in the 21st Century [5]

**References**

- Adhikari, S. 2015. Fundamentals of Geographical Thought, Orient Blackswan.
- Clifford, N. Holloway S.L., Rice, S.P., Valentine, G. 2009. Key Concepts in Geography, 2nd ed, Sage.
- Couper, P. 2015. A Student's Introduction to Geographical Thought: Theories, Philosophies, Methodologies, Sage.
- Cresswell, T. 2013. Geographic Thought: A Critical Introduction, Wiley-Blackwell.
- Dikshit, R.D. 2004. Geographical Thought: A Contextual History of Ideas, Prentice Hall India.
- Holt-Jensen, A. 2011. Geography: History and Concepts: A Student's Guide, Sage.
- Husain, M. 2015. Evolution of Geographical Thought, 6th ed, Rawat Publications.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Pete, P. 1998. Modern Geographical Thought, Wiley-Blackwell.



**2.26 GEO-A-CC-6-13-P – Evolution of Geographical Thought Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of topics 1 and 2, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Changing perception of maps of the world (Ptolemy, Ibn Batuta, Mercator)
2. Mapping voyages; Columbus, Vasco da Gama, Magellan, Thomas Cook
3. Group Presentation of five to ten students on any selected school of geographical thought (20 marks)
4. Viva-voce based on laboratory notebook on topics 1 and 2 (10 Marks)

#### References

- Black, J. 2003. Visions of the World: A History of Maps, Mitchell Beazley.
- Couper, P. 2015. A Student's Introduction to Geographical Thought: Theories, Philosophies, Methodologies, Sage.
- Holt-Jensen, A. 2011. Geography: History and Concepts: A Student's Guide, Sage.
- Whitfield, P. 2017. Charting the Oceans, British Library.

**2.27 GEO-A-CC-6-14-TH – Hazard Management** ✧ 60 Marks / 4 Credits**Unit I: Concepts**

1. Classification of hazards and disasters. Hazard continuum [4]
2. Approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms [6]
3. Responses to hazards: Preparedness, trauma, and aftermath. Resilience, capacity building [5]
4. Hazards mapping: Data and geospatial techniques (for hazards enlisted in Unit II and GEO-A-CC-6-14-P) [5]

**Unit II: Hazard-specific Study with Focus on West Bengal and India**

5. Earthquake: Factors, vulnerability, consequences, and management [5]
6. Landslide: Factors, vulnerability, consequences, and management [5]
7. Land subsidence: Factors, vulnerability, consequences, and management [5]
8. Tropical cyclone: Factors, vulnerability, consequences, and management [5]
9. Flood: Factors, vulnerability, consequences, and management [5]
10. Riverbank erosion: Factors, vulnerability, consequences, and management [5]
11. Fire: Factors, vulnerability, consequences, and management [5]
12. Biohazard: Classification, vulnerability, consequences, and management [5]

**References****BOOKS:**

- Coenraads, R. (Ed.) 2006. Natural Disasters and How We Cope, Millennium House.
- Coch, N.K. 1994. Geohazards: Natural and Human, Pearson College.
- Cutter, S.L. 2006. Hazards Vulnerability and Environmental Justice, Routledge
- Government of India. 1997. Vulnerability Atlas of India, Revised ed, Building Materials & Technology Promotion Council, Ministry of Urban Development.
- Gupta, H.K. 2013. Disaster Management, University Press.
- Hyndman, D., Hyndman, D. 2016. Natural Hazards and Disasters, 5th ed, Brooks Cole.
- Kapur, A. 2010. Vulnerable India: A Geographical Study of Disasters, Sage.
- Keller, E.A., DeVecchio, D.E. 2014. Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes, 4th ed, Routledge.
- Pine, J.C. 2014. Hazards Analysis: Reducing the Impact of Disasters, 2nd ed, CRC Press.
- Robbins, P., Hintz, J., Moore, S.A. 2014. Environment and Society: A Critical Introduction 2nd ed, Wiley.
- Smith, K. 2013. Environmental Hazards: Assessing Risk and Reducing Disaster, 6th ed, Routledge.

**WEBSITES:**

- AGU landslide Blog: [blogs.agu.org/landslideblog](https://blogs.agu.org/landslideblog)
- Dartmouth Flood Observatory: [floodobservatory.colorado.edu](https://floodobservatory.colorado.edu)
- Disaster News Network: [secure.disasternews.net](https://secure.disasternews.net)
- India Meteorological Department Cyclone Page: [www.rsmcnewdelhi.imd.gov.in/index.php?lang=en](https://www.rsmcnewdelhi.imd.gov.in/index.php?lang=en)
- USGS Earthquake Hazards Programme: [www.earthquake.usgs.gov](https://www.earthquake.usgs.gov)

**2.28 GEO-A-CC-6-14-P – Hazard Management Lab** ✧ 30 Marks / 2 Credits

*A Group Project Report is to be prepared and submitted based on any one case study among the following hazards from West Bengal, incorporating a preparedness plan, preferably in the vicinity of the candidates' institution / district:*

1. Earthquake
2. Landslide
3. Land subsidence
4. Thunderstorm
5. Flood
6. Riverbank / Coastal erosion
7. Fire
8. Industrial accident
9. Road / Railway accident
10. Structural collapse
11. Environmental pollution
12. Biohazard

*One case study will be done by a group of five to ten students. Different groups may choose different case studies from any one or different types of disasters. The report should be prepared on secondary data and handwritten on A4 page in candidates' own words not exceeding 2,000 words excluding references. The report should contain a proper title. The report should incorporate relevant tables, maps, diagrams, and references, not exceeding ten pages. Photographs are optional and should not exceed three. A copy of the stapled / spiral-bound report in a transparent cover, duly signed by the concerned teacher, is to be submitted during examination. Without the report the candidates will not be evaluated for GEO-A-CC-6-14-P.*

Marks division: 20 on report + 10 on viva-voce = 30

### 3. HONOURS COURSE: DISCIPLINE SPECIFIC ELECTIVES

#### 3.1 **GEO-A-DSE-A-5-01-TH – Fluvial Geomorphology** ✧ 60 Marks / 4 Credits

1. Scope and components of Fluvial Geomorphology. Rivers as hydro-systems. Geographers' approach to study of rivers [3]
2. Processes and significance of sediment entrainment. The Hjulström curve [5]
3. Models of channel initiation and network development [5]
4. Linear, areal and altitudinal properties of drainage basin. Horton's stream laws. [5]
5. Fundamentals of Rosgen stream classification system [5]
6. Fluvial morphodynamics: Adjustment of channel forms to tectonic, climatic, sea level and land use changes [6]
7. Large rivers of the tropics: Characteristics and significance [5]
8. Fluvial landforms: Terraces, alluvial fans, badlands and accretion topography [5]
9. Riverbank erosion and river degeneration: Processes, management, and impact on land use [5]
10. Human intervention on fluvial systems : Types and consequences [8]
11. Concept and significance of ecological flow [3]
12. Integrated watershed management: Principles and significance [5]

#### References

- Bridges, E. M., 1990. World Geomorphology, Cambridge University Press.
- Charlton, R. 2016. Fundamentals of Fluvial Geomorphology, 2nd ed, Routledge.
- Chorley, R., Schumm, S. and Sugden, D.E. 1994. Geomorphology, Methuen.
- Chorley, R.J. and Kennedy, B.A. 1971. Physical Geography: A Systems Approach, Prentice Hall.
- Goudie, A.S. (Ed) 2004. Encyclopaedia of Geomorphology, vol. 1 & 2, Routledge.
- Gupta, A. (Ed) 2008. Large Rivers, Wiley.
- Gupta, A. 2011. Tropical Geomorphology, Cambridge University Press.
- Huggett, R.J. 2011. Fundamentals of Geomorphology, Routledge.
- Kale V.S., Gupta A. 2001. Introduction to Geomorphology, Orient Longman.
- Knighton, D. 1998. Fluvial Forms and Processes: A New Perspective, Arnold.
- Morisawa, M. 1985. Rivers, Longman.
- Petts, G.E., Amoros, C (Eds). 1996. Fluvial Hydrosystems, Chapman and Hall.
- Rosgen, D.L. 1994. A classification of natural rivers, Catena, 22:169-199.
- Selby, M.J. 1985. Earth's Changing Surface, Oxford University Press.
- Sen, P.K. 1989. Geomorphological Analysis of Drainage Basin: An Introduction to Morphometric and Hydrological Parameters, University of Burdwan.
- Summerfield, M.J., 2003. Global Geomorphology: An Introduction to the Study of landforms, Longman.

**3.2 GEO-A-DSE-A-5-01-P – Fluvial Geomorphology Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Identification of drainage patterns and construction of channel profiles from Survey of India 1:50k topographical maps. Computation of sinuosity indices from river planforms [20]
2. Riverbank erosion: Quantification of eroded area and vulnerability zonation using multi-dated maps and images [20]
3. Flood frequency analysis from hydrographs [5]
4. Analyses of pebbles: Sphericity and roundness indices [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Basu, R., Bhaduri, S. (Eds) 2007. Contemporary Issues and Techniques in Geography, Progressive Publishers.

Gardiner, V., Dacombe, R.V. 1982. Geomorphological Field Manual, George Allen & Unwin

Lindholm, R. 1987. A Practical Approach to Sedimentology, Allen & Unwin.

Morisawa, M. 1985. Rivers, Longman.

Mukolwe, M.M. 2016. Flood Hazard Mapping: Uncertainty and its Value in the Decision-making Process, CRC Press.

Sen, P.K. 1989. Geomorphological Analysis of Drainage Basin: An Introduction to Morphometric and Hydrological Parameters, University of Burdwan.

##### WEBSITES:

Central Water Commission: [cwc.gov.in](http://cwc.gov.in)

Dartmouth Flood Observatory: [floodobservatory.colorado.edu](http://floodobservatory.colorado.edu)

**3.3 GEO-A-DSE-A-5-02-TH – Climate Change: Vulnerability and Adaptations ✧ 60 Marks**

1. The science of climate change: Origin, scope and trends [5]
2. Climate change with reference to the geological time scale [6]
3. Evidences and factors of climate change: The nature–man dichotomy [4]
4. Greenhouse gases and global warming [5]
5. Electromagnetic spectrum, atmospheric window, heat balance of the earth [5]
6. Global climatic assessment: IPCC reports [5]
7. Climate change and vulnerability: Physical; economic and social [5]
8. Impact of climate change: Agriculture and water; flora and fauna; human health and morbidity [5]
9. Global initiatives to climate change mitigation: Kyoto Protocol, carbon trading, clean development mechanism, COP, climate fund [5]
10. Climate change vulnerability assessment and adaptive strategies with particular reference to South Asia [5]
11. National Action Plan on climate change [5]
12. Role of urban local bodies, panchayats, and educational institutions on climate change mitigation: Awareness and action programmes [5]

**References****Books:**

- Parry, M., Canziani, O., Palutikof, J., Linden, P., Hanson, C. (Eds) 2007. Climate Change 2007: Impacts, Adaptation and Vulnerability-Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press.
- Field, C.B., Barros V.R., Dokken, D.J., Mach, K.J., Mastrandrea, M.D., Bilir, D.E., Chatterjee, M., Ebi, K.L., Estrada, Y.O., Genova, R.C., Girma, B., Kissel, E.S., Levy, A.N., MacCracken, S., Mastrandrea, P.R., White, L.L. (Eds) 2014. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects-Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press.
- Field, C.B., Barros V.R., Dokken, D.J., Mach, K.J., Mastrandrea, M.D., Bilir, D.E., Chatterjee, M., Ebi, K.L., Estrada, Y.O., Genova, R.C., Girma, B., Kissel, E.S., Levy, A.N., MacCracken, S., Mastrandrea, P.R., White, L.L. (Eds) 2014. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects-Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press.
- Organisation for Economic Co-operation and Development (OECD) 2008. Climate Change Mitigation: What Do we do? Organisation and Economic Co-operation and Development.
- United Nations Environmental Programme (UNEP) 2007. Global Environment Outlook: GEO4: Environment for Development, United Nations.
- Singh, M., Singh, R.B., Hassan, M.I. (Eds) 2014. Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Vol-1, Springer.
- Sen Roy, S., Singh, R.B. 2002. Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions, Oxford & IBH.

## WEBSITES:

Intergovernmental Panel on Climate Change: [www.ipcc.ch](http://www.ipcc.ch)

Ministry of Environment, Forest and Climate Change: [envfor.nic.in](http://envfor.nic.in)

World Bank Climate Change Knowledge Portal: [sdwebx.worldbank.org/climateportal/index.cfm](http://sdwebx.worldbank.org/climateportal/index.cfm)

### 3.4 GEO-A-DSE-A-5-02-P – Climate Change: Vulnerability and Adaptations Lab ✧ 30 Marks

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Analysis of trends of temperatures (maximum and minimum of about three decades) of any India Meteorological Department (IMD) station [10]
2. Comparative analysis of seasonal variability of rainfall on the basis of monthly data of any two IMD stations [15]
3. Annual rainfall variability of about three decades for any two representative climatic regions of India [15]
4. Preparation of an inventory of extreme climatic events and mitigation measure of any climatic region / country of South Asia for a period of one decade on the basis of secondary information [20]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

Attri, S.D., Tyagi, A. 2010. Climate Profile of India. Met Monograph No. Environment Meteorology 01/ 2010, India Meteorological Department, Govt. of India. Available at: [www.indiaenvironmentportal.org.in/files/climate\\_profile.pdf](http://www.indiaenvironmentportal.org.in/files/climate_profile.pdf)

Rathore, L.S., Attri, S.D., Jaswal, A. K. 2013. State Level Climate Change Trends In India. Meteorological Monograph No. ESSO/IMD/EMRC/02/2013. India Meteorological Department, Govt. of India. Available at: <http://www.imd.gov.in/section/climate/StateLevelClimateChangeMonoFinal.pdf>

Overseas Development Institute and Climate & Development Knowledge Network. 2014. The IPCC's Fifth Assessment Report: What's in it for South Asia? Available at: [https://cdkn.org/wp-content/uploads/2014/04/IPCC\\_AR5\\_CDKN\\_Whats\\_in\\_it\\_for\\_South\\_Asia\\_FULL.pdf](https://cdkn.org/wp-content/uploads/2014/04/IPCC_AR5_CDKN_Whats_in_it_for_South_Asia_FULL.pdf)

##### WEBSITES:

India Meteorological Department: [www.imd.gov.in/Welcme%20To%20IMD/Welcme.php](http://www.imd.gov.in/Welcme%20To%20IMD/Welcme.php)

World Bank Climate Change Knowledge Portal: [sdwebx.worldbank.org/climateportal/index.cfm](http://sdwebx.worldbank.org/climateportal/index.cfm)

**3.5 GEO-A-DSE-A-6-03-TH – Environmental Issues in Geography** ✧ 60 Marks / 4 Credits

1. Geographers' approach to environmental studies [5]
2. Concept of holistic environment and systems approach [5]
3. Ecosystems and their relation with habitats. Habitat loss in West Bengal [5]
4. Wetland ecosystem with special reference to East Kolkata Wetlands [5]
5. Rural environmental issues: Special reference to sanitation and public health [6]
6. Urban environmental issues with special reference to waste management [4]
7. Environmental policies – Club of Rome, earth summits (special reference to Stockholm, Rio, Johannesburg) [5]
8. Global initiatives for environmental management (special reference to Montreal, Kyoto, Paris) [5]
9. Environmental Impact Assessment and Environmental Management Planning [5]
10. Overview of principal environment-related regulations of India. Review of their achievements [5]
11. Principles of wasteland management with examples from West Bengal [5]
12. Principles of forest management with examples from West Bengal [5]

**References****BOOKS:**

- Basu, R., Bhaduri, S. (Eds) 2007. Contemporary Issues and Techniques in Geography, Progressive Publishers.
- Chandna, R.C. 2002. Environmental Geography, Kalyani Press.
- Chapman, J.L., Reiz, M.J. 1993. Ecology: Principle and Applications, Cambridge University Press.
- Cunningham, W.P., Cunningham, M.A. 2004. Principals of Environmental Science: Inquiry and Applications, Tata Macgraw Hill.
- Goudie, A. 2001. 2013. The Human Impact on the Natural Environment: Past, Present, and Future, 7th ed, Wiley-Blackwell.
- Gilpin, A., 1994. Environmental Impact Assessment: Cutting Edge for the 21st Century, Cambridge University Press.
- Miller, G.T. 2004. Environmental Science: Working with the Earth, Thomson Brooks.
- Odum, E.P., Barrett, G.W. 2005. Fundamentals of Ecology, Ceneage Learning.
- Raven, P.H., Hassenzahl, D.M., Hager, M.C., Gift, N.Y., Berg, L.R. 2015. Environment, 9th ed, Wiley.
- Sharma, P.D. 2011. Ecology and Environment, Rastogi Publications.
- Singh, S. 2013. Environmental Geography, Prayag Pustak Bhawan.
- Withgott, J.H., Laposata, M. 2017. Environment: The Science behind the Stories, 6th ed, Pearson.

**WEBSITES:**

- BBC – Science & Environment: [www.bbc.com/news/science\\_and\\_environment](http://www.bbc.com/news/science_and_environment)
- Central Pollution Control Board: [www.wbpcb.gov.in](http://www.wbpcb.gov.in)



Centre for Science and Environment: [www.cseindia.org](http://www.cseindia.org)

Ministry of Environment, Forest and Climate Change: [www.envfor.nic.in](http://www.envfor.nic.in)

The Energy and Resources Institute: [www.teriin.org](http://www.teriin.org)

The World Bank – Environment: [www.worldbank.org/en/topic/environment](http://www.worldbank.org/en/topic/environment)

United Nations Environment Programme: [www.unenvironment.org](http://www.unenvironment.org)

West Bengal Pollution Control Board: [www.cpcb.nic.in](http://www.cpcb.nic.in)

### 3.6 GEO-A-DSE-A-6-03-P – Environmental Issues in Geography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Preparation of questionnaire for perception survey on environmental problems [15]
2. Preparation of check-list for Environmental Impact Assessment for urban / industrial development projects [15]
3. Quality assessment of soil using field kit: Organic matter and NPK [15]
4. Interpretation of changes in air quality using multi-seasonal and multi-city or multi locational (within a single city) CPCB / WBPCB data [15]
5. Laboratory notebook and viva voce (10 marks)

#### References

##### BOOKS:

Clifford, N., Cope, M., Gillespie, T.W., French, S. (Eds) 2016. Key Methods in Geography, 3rd ed, Sage.

Gilpin, A., 1994. Environmental Impact Assessment: Cutting Edge for the 21st Century, Cambridge University Press.

Northey, N., Draper, D., Knight, D.B. 2015. Making Sense in Geography and Environmental Sciences: A Student's Guide to Research and Writing, 6th ed, Oxford University Press.

##### WEBSITES:

Central Pollution Control Board: [www.wbpcb.gov.in](http://www.wbpcb.gov.in)

West Bengal Pollution Control Board: [www.cpcb.nic.in](http://www.cpcb.nic.in)

**3.7 GEO-A-DSE-A-6-04-TH – Resource Geography ✧ 60 Marks / 4 Credits****Unit I: Resource and Development**

1. Natural resources: Concept and classification [4]
2. Approaches to resource utilization: Utilitarian, conservational, community based adaptive [6]
3. Significance of resources: Backbone of economic growth and development [5]
4. Pressure on resources. Appraisal and conservation of natural resources [5]
5. Problems of resource depletion: global scenario (forest, water, fossil fuels) [7]
6. Sustainable resource development [3]

**Unit II: Resource Conflict and Management**

7. Distribution, utilisation, problems and management of metallic mineral resources: Iron ore, bauxite, copper [6]
8. Distribution, utilisation, problems and management of non-metallic mineral resources: Limestone, mica, gypsum [6]
9. Distribution, utilisation, problems and management of energy resources: Conventional and non-conventional [6]
10. Contemporary energy crisis and future scenario [4]
11. Politics of power resources [3]
12. Limits to growth and sustainable use of resources. Concept of resource sharing [5]

**References**

- Chiras, D.D., Reganold, J.P. 2009. Natural Resource Conservation: Management for a Sustainable Future, 10th ed, Pearson.
- Cutter, S.N., Renwick, H.L., Renwick, W. 1991. Exploitation, Conservation, and Preservation: A Geographical Perspective on Natural Resources Use, John Wiley and Sons.
- Gadgil, M., Guha, R. 2005. The Use and Abuse of Nature: Incorporating This Fissured Land: An Ecological History of India and Ecology and Equity, Oxford University Press.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Holechek, J.L.C., Richard, A., Fisher, J.T., Valdez, R. 2003. Natural Resources: Ecology, Economics and Policy, Prentice Hall.
- Jones, G., Hollier, G. 1997. Resources, Society and Environmental Management, Paul Chapman.
- Klee, G. 1991. Conservation of Natural Resources, Prentice Hall.
- Mather, A.S., Chapman, K. 1995. Environmental Resources, John Wiley and Sons.
- Mitchell, B. 1997. Resource and Environmental Management, Longman Harlow.
- Owen, S., Owen, P.L. 1991. Environment, Resources and Conservation, Cambridge University Press.
- Rees, J. 1990. Natural Resources: Allocation, Economics and Policy, Routledge.

### 3.8 **GEO-A-DSE-A-6-04-P – Resource Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Mapping and area estimate of changes in forest or vegetation cover from maps and/or satellite images [15]
2. Mapping and number estimate of changes in water bodies from maps and/or satellite images [15]
3. Decadal changes in state-wise production of coal and iron ore [15]
4. Computing Human Development Index: Comparative decadal change of top five Indian states [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### Books:

Bhatta, B. 2011. Remote Sensing and GIS, 2nd ed, Oxford Univ. Press.

Datta, R., Sundharam, K.P.M. 2015. Indian Economy, Chand.

Fukuda-Parr, S., Kumar, S.A.K. 2005. Readings in Human Development, Oxford University Press.

Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers

Lillesand, T.M., Kiefer, R.W., Chipman, J.W., 2015. Remote Sensing and Image Interpretation, 7th ed, Wiley.

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

##### Websites:

Open Government of India Data Platform: [data.gov.in](https://data.gov.in)

Wikipedia (hierarchy of states):

[en.wikipedia.org/wiki/List\\_of\\_Indian\\_states\\_and\\_union\\_territories\\_by\\_GDP\\_per\\_capita](https://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP_per_capita)

**3.9 GEO-A-DSE-B-5-05-TH – Cultural and Settlement Geography** ✧ 60 Marks / 4 Credits**Unit I: Cultural Geography**

1. Definition, scope and content of cultural geography [5]
2. Development of cultural geography in relation to allied disciplines [5]
3. Cultural hearth and realm, cultural diffusion, diffusion of major world religions and languages [6]
4. Cultural segregation and cultural diversity, culture, technology and development. [5]
5. Races and racial groups of the world [5]
6. Cultural regions of India [4]

**Unit II: Settlement Geography**

7. Rural settlement: Definition, nature and characteristics [3]
8. Rural settlement: Site, situation, and morphology [5]
9. Rural house types with reference to India, social segregation in rural areas. Census of India categories of rural settlements [7]
10. Urban settlement: Census of India definition and categories [3]
11. Urban morphology: Models of Burgess, Hoyt, Harris, and Ullman. [7]
12. City-region and conurbation. Functional classification of cities: Schemes of Harris, Nelson, and McKenzie [5]

**References**

- Banerjee Guha, S. (Ed.) 2004. Space, Society and Geography, Rawat Publication.
- Bjelland, M.D., Montello, D.R., Fellmann, J.D., Getis, A., Getis, J. 2000. Human Geography: Landscape of Human Activity, McGraw Hill.
- Carter, H. 1995. The Study of Urban Geography, 4th ed, Arnold.
- Dhanagare, D.N. 2004. Themes and Perspectives in Indian Sociology, Rawat Publication.
- Fern, R.L. 2002. Nature, God and Humanity, Cambridge University Press.
- Fouberg, E.H., Murphy, A.B., de Blij H.J. 2015. Human Geography: People, Place, and Culture, 11th ed, Wiley
- Ghosh, S. 1998. Introduction to Settlement Geography, Sangam Books Ltd.
- Gottodiener, M., Budd, M. Lehtovuori, P. 2016. Key Concepts in Urban Studies, 2nd ed, Sage.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Hudson, F.S. 1970. Geography of Settlements, Macdonald and Evans Ltd.
- Hussain, M. 2007. Models in Geography, Rawat Publication.
- Jordan, T., Rowntree, L. 1990. Human Mosaic, Harper Collins Publishers.
- Knox, P., Pinch, S. 2000. Urban Social Geography, Pearson Education.
- Mandal, R.B. 2001. Introduction to Rural Settlement, 2nd ed, Concept Publishing Company.
- Mitchell, D. 2000. Cultural Geography: A Critical Introduction, Blackwell.
- Singh, R.Y. 2000. Geography of Settlements, Rawat Publication.

**3.10 GEO-A-DSE-B-5-05-P – Cultural and Settlement Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Mapping language distribution of India [10]
2. CD block-wise housing distribution in any district of West Bengal using proportional square [20]
3. Identification of rural settlement types from Survey of India 1:50k topographical maps [15]
4. Social area analysis of a city (Shevky & Bell) [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers
- Pacione, M. 2012. Population Geography: Progress and Prospect, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.

**3.11 GEO-A-DSE-B-5-06-TH– Social Geography** ✧ 60 Marks / 4 Credits**Unit I: Society, Identity and Crisis**

1. Social Geography: Concept, origin, nature, and scope [4]
2. Concept of space, Social differentiation, and stratification. Social processes [5]
3. Social categories: Caste, class, religion, race, gender, and their spatial distribution [6]
4. Basis of social region formation; Evolution of social-cultural regions of India [4]
5. Peopling process of India: Technology and occupational change. Migration [6]
6. Social groups, social behaviour and contemporary social environmental issues with special reference to India [5]

**Unit II: Social Wellbeing and Planning**

7. Concepts of social well-being, quality of life. Gender and social well-being [6]
8. Measures of social well-being: Healthcare, education, housing, gender disparity [7]
9. Social geographies of inclusion and exclusion, slums, gated communities, communal conflicts, and crime [6]
10. Social planning during the five-year plans in India [3]
11. Social policies in India: Education and health [4]
12. Social Impact Assessment: Concept and importance [4]

**References**

- Ahmed A., 1999. Social Geography, Rawat Publications.
- Casino, V. J. D., Jr., 2009. Social Geography: A Critical Introduction, Wiley Blackwell.
- Cater, J., Jones T., 2000: Social Geography: An Introduction to Contemporary Issues, Hodder Arnold.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Holt, L., 2011. Geographies of Children, Youth and Families: An International Perspective, Taylor & Francis.
- Majumdar, P.K. 2013. India's Demography: Changing Demographic Scenario in India, Rawat Publications.
- Mukherji, S. 2013. Migration in India: Links to Urbanization, Regional Disparities and Development Policies, Rawat Publications
- Panelli, R., 2004. Social Geographies: From Difference to Action, Sage.
- Rachel, P., Burke, M., Fuller, D., Gough, J., Macfarlane, R., Mowl, G. 2001. Introducing Social Geographies, Oxford University Press.
- Smith, D. M., 1994. Geography and Social Justice, Blackwell, Oxford.
- Smith, S.J., Pain, R., Marston, S. A., Jones, J. P., 2009. The SAGE Handbook of Social Geographies, Sage Publications.
- Valentine, G. 2014. Social Geographies: Space and Society, Routledge.

**3.12 GEO-A-DSE-B-5-06-P – Social Geography Lab ✧ 30 Marks / 2 Credits**

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Preparation of spatial distribution maps of India: Gender, caste, and religion [15]
2. Preparation of spatial distribution map of West Bengal: Healthcare indices and institutions [15]
3. Analysis of migration data: (a) rural to urban and (b) urban to urban migration. [15]
4. Preparation for Social Impact Assessment (checklist of indices only) [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers

Mishra, D.K. (eds). 2016., Internal Migration in Contemporary India, Sage Publication, New Delhi

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

##### WEBSITE:

West Bengal Directorate of Health Services (Data on Health):

[https://www.wbhealth.gov.in/other\\_files/Health%20on%20the%20March,%202015-2016.pdf](https://www.wbhealth.gov.in/other_files/Health%20on%20the%20March,%202015-2016.pdf)

**3.13 GEO-A-DSE-B-6-07-TH – Urban Geography ✧ 60 Marks / 4 Credits****Unit I: Urban Settlements – Origin and Evolution**

1. Urban Geography: Nature and scope, different approaches and recent trends in urban geography [5]
2. Origin of urban places in ancient, medieval, modern and post-modern periods: Factors, stages, and characteristics [7]
3. Theories of urban evolution and growth: Hydraulic theory and economic theory [3]
4. Aspects of urban places: Location, site, and situation. Size and spacing of cities: Rank size rule, law of primate city [5]
5. Urban hierarchies: Central place theory. August Lösch's theory of market centres [5]
6. Patterns of urbanisation in developed and developing countries [5]

**Unit II: Urban Places – Changing Scenario**

7. Ecological processes of urban growth, Urban fringe. City-region [5]
8. Models on urban structure: Political economy, bid-rent curve, social area analysis [5]
9. Urban issues: Problems of housing, slums, civic amenities (water and transport) [7]
10. Patterns and trends of urbanisation in India [3]
11. Policies on urbanisation. Urban change in post-liberalised period in India [5]
12. Case studies of Delhi, Kolkata, and Chandigarh with reference to land use [5]

**References**

- Carter, H. 1995. The Study of Urban Geography, 4th ed, Arnold.
- Giuliano, G., Hanson, S. (Eds) 2017. The Geography of Urban Transportation, 4th ed, Guilford Press.
- Gottodiener, M., Budd, M. Lehtovuori, P. 2016. Key Concepts in Urban Studies, 2nd ed, Sage.
- Jonas, A.E.G., McCann, E., Thomas, M. 2015. Urban Geography: A Critical Introduction, Wiley-Blackwell.
- Kaplan, D., Holloway, S. 2014. Urban Geography, 3rd ed, Wiley.
- Knox, P.L., McCarthy, L.M. 2011. Urbanization: An Introduction to Urban Geography, 3rd ed, Pearson.
- Latham, A., McCormack, D., McNamara, K. McNeill, D. 2009. Key Concepts in Urban Geography, Sage.
- LeGates, R.T., Stout, F. (Eds) 2015 The City Reader, 6th ed, Routledge.
- Levy, J.M. 2016. Contemporary Urban Planning, 11th ed, Routledge.
- Macionis, J.J., Parrillo, V.N. 2016. Cities and Urban Life, 7th ed, Pearson.
- Mandal, R.B. 2008. Urban Geography: A Text Book, Concept Publishing Company.
- Pacione, M. 2009. Urban Geography: A Global Perspective, Routledge.
- Potter, R.B., Lloyd-Evans, S. 2014. The City in the Developing World, Routledge.
- Ramachandran, R. 1989. Urbanisation and Urban Systems in India, Oxford University Press.
- Ramachandran, R., 1992: The Study of Urbanisation, Oxford University Press
- Singh, R.B. (Ed.) (2015) Urban development, challenges, risks and resilience in Asian megacities. Advances in Geographical and Environmental Studies, Springer



**3.14 GEO-A-DSE-B-6-07-P – Urban Geography Lab ✧ 30 Marks / 2 Credits**

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Hierarchy of urban settlements: Rank-size rule [15]
2. State-wise variation and trends of urbanisation [15]
3. Temporal analysis of urban growth using Census of India data [15]
4. Preparation of urban land use land cover map from satellite images [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### Books:

- Kaplan, D., Holloway, S. 2014. Urban Geography, 3rd ed, Wiley.
- Latham, A., McCormack, D., McNamara, K. McNeill, D. 2009. Key Concepts in Urban Geography, Sage.
- Lillesand, T.M., Kiefer, R.W., Chipman, J.W., 2015. Remote Sensing and Image Interpretation, 7th ed, Wiley.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

##### WEBSITES:

- Census of India: [censusindia.gov.in](http://censusindia.gov.in)  
[censusindia.gov.in/2011census/dchb/WBA.html](http://censusindia.gov.in/2011census/dchb/WBA.html)
- Planning Commission (West Bengal Development Report 2010):  
[planningcommission.nic.in/plans/stateplan/sdr/sdr\\_wb1909.pdf](http://planningcommission.nic.in/plans/stateplan/sdr/sdr_wb1909.pdf)

**3.15 GEO-A-DSE-B-6-08-TH – Geography of India** ✧ 60 Marks / 4 Credits**Unit I: Geography of India**

1. Physiographic divisions with reference to tectonic provinces [5]
2. Climate, soil and vegetation: Classification and interrelation [6]
3. Population: Distribution, growth, structure, and policy [4]
4. Tribes of India with special reference to Gaddi, Toda, Santal, and Jarwa [5]
5. Agricultural regions. Green revolution and its consequences [4]
6. Mineral and power resources: Distribution and utilisation of iron ore, coal, petroleum, and natural gas [6]
7. Industrial development: Automobile and information technology [3]
8. Regionalisation of India: Physiographic (R.L. Singh) and economic (P. Sengupta) [7]

**Unit II: Geography of West Bengal**

9. Physical perspectives: Physiographic divisions, forest and water resources [6]
10. Resources: Agriculture, mining, and industry [6]
11. Population: Growth, distribution, and human development [4]
12. Regional issues: Darjeeling Hills and Sundarban [4]

**References****BOOKS**

- Bandyopadhyay, S., Kar, N.S., Das, S., Sen, J. 2014. River system and water resources of West Bengal: A Review. In: Vaidyanadhan, R. (Ed) Rejuvenation of Surface Water Resources of India: Potential, Problems and Prospects, Geological Society of India Special Publication.
- Dhara, M.K., Basu, S.K., Bandyopadhyay, R.K., Roy, B., Pal, A.K. (Eds.) 1999. Geology and Mineral Resources of the States of India, Part-1: West Bengal. Geological Survey of India Miscellaneous Publication.
- Ghurey, G.S. 1963. The Scheduled Tribes of India, 1980 reprint, Transaction Books.
- Johnson, B.L.C. (Ed) 2001. Geographical Dictionary of India, Vision Books.
- Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers
- Mandal, H., Mukherjee, S., Datta, A. 2002. India: An Illustrated Atlas of Tribal World, Anthropological Survey of India.
- Pathak, C.R. 2003. Spatial Structure and Processes of Development in India, Regional Science Association-Kolkata.
- Sharma, T.C. 2012. Economic Geography of India, Rawat Publications.
- Singh, J. 2003. India-A Comprehensive & Systematic Geography, Gyanodaya Prakashan.
- Singh, R.L. 1971. India: A Regional Geography, National Geographical Society of India.
- Spate, O.H.K., Learmonth, A.T.A. 1967. India and Pakistan: A General and Regional Geography, Methuen.
- Tiwari, R.C. 2007. Geography of India, Prayag Pustak Bhawan.
- Valdiya, K.S. 2010. The Making of India: Geodynamic Evolution, Macmillan Publishers India Ltd.

## WEBSITES

Geological Survey of India: [gsi.gov.in](http://gsi.gov.in)

National Bureau of Soil Survey and Land Use Planning: [nbsslup.in](http://nbsslup.in)

Indian Council of Agricultural Research: [icar.org.in](http://icar.org.in)

Census of India: [censusindia.gov.in](http://censusindia.gov.in)  
[censusindia.gov.in/2011census/dchb/WBA.html](http://censusindia.gov.in/2011census/dchb/WBA.html)

### 3.16 GEO-A-DSE-B-6-08-P –Geography of India Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Monthly temperature and rainfall graphs of five select stations from different physiographic regions of India [15]
2. Crop combination: Comparison of any two contrasting districts from West Bengal [15]
3. Annual trends of production: Mineral resources and manufacturing goods over two decades [20]
4. Composite Index: Comparison of developed and backward states of India [10]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Datt, R. and Sundharam, K.P.M. 2015. Indian Economy, 50th ed, S. Chand.

Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers.

Government of West Bengal: District Statistical Handbooks (e.g. [bardhaman.nic.in/dshb05.pdf](http://bardhaman.nic.in/dshb05.pdf) )

##### WEBSITES:

India Meteorological Department: [www.imd.gov.in](http://www.imd.gov.in)

ISRO Bhuvan 2D Platforms: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)

Open Government of India Data Platform: [data.gov.in](http://data.gov.in)

Planning Commission (West Bengal Development Report 2010):

[planningcommission.nic.in/plans/stateplan/sdr/sdr\\_wb1909.pdf](http://planningcommission.nic.in/plans/stateplan/sdr/sdr_wb1909.pdf)

Trending Economics (India's industrial production):

[tradingeconomics.com/india/industrial-production](http://tradingeconomics.com/india/industrial-production)

UNDP Human Development Report on India (2016):

[hdr.undp.org/en/countries/profiles/IND](http://hdr.undp.org/en/countries/profiles/IND)

[hdr.undp.org/sites/all/themes/hdr\\_theme/country-notes/IND.pdf](http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/IND.pdf)

Wikipedia (hierarchy of states):

[en.wikipedia.org/wiki/List\\_of\\_Indian\\_states\\_and\\_union\\_territories\\_by\\_GDP\\_per\\_capita](http://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP_per_capita)

## 4. HONOURS COURSE: SKILL ENHANCEMENT ELECTIVES

### 4.1 GEO-A-SEC-A-3-01-TH – Coastal Management ✧ 90 Marks / 2 Credits

1. Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms [7]
2. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism [8]
3. Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution [8]
4. Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India. [7]

#### References

##### BOOKS:

- Beatley, T., Brower, D., Schwab, A.K. 2002. An Introduction to Coastal Zone Management, 2nd ed, Island Press.
- Berkes, F. 2015. Coasts for People: Interdisciplinary Approaches to Coastal and Marine Resource Management, Routledge.
- Carter, R.W.G. 1988. Coastal Environments: An Introduction to the Physical, Ecological and Cultural Systems of Coastlines, Academic Press.
- Clark, J.R. 1996. Coastal Zone Management Handbook, CRC Press / Lewes Publishers.
- Clark, J.R. 1998. Coastal Seas: The Conservation Challenge, Blackwell Science.
- French, P. 1997. Coastal and Estuarine Management, Routledge.
- Kay, R. and Alder, J. 1999. Coastal Planning and Management, E & FN Spon / Routledge.
- Pethick, J. 1984. An Introduction to Coastal Geomorphology, Arnold.
- Woodrofe, C.D. 2002. Coasts : Form, Process and Evolution. Cambridge University Press.

##### WEBSITE:

Govt. of India CRZ notification:

[www.moef.nic.in/downloads/public-information/CRZ-Notification-2011.pdf](http://www.moef.nic.in/downloads/public-information/CRZ-Notification-2011.pdf)

## 4.2 **GEO-A-SEC-A-3-02-TH – Tourism Management** ✧ 90 Marks / 2 Credits

1. Scope and Nature: Concepts and issues, tourism, recreation and leisure inter-relations; Factors influencing tourism, Types of Tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national [10]
2. Use of information on factors (historical, natural, socio-cultural and economic; motivating factors for pilgrimages) to plan destination marketing; tourism products. Niche tourism planning [5]
3. Tourism impact assessment, Sustainable tourism, Information Technology and Tourism, Tour operations planning and guiding [8]
4. Increasing Global tourism; Tourism in India: Tourism infrastructure, access, planning for different budgets for case study sites of Western Himalayas, Goa, Chilka/Vembanad, Jaipur [7]

### References

- Boniface, B., Cooper, R., Cooper, C. 2016. Worldwide Destinations: The Geography of Travel and Tourism, vol. 1, 7th ed, Routledge.
- Edgell, D.L., Swanson, J. 2013. Tourism Policy, and Planning: Yesterday, Today, and Tomorrow, Routledge.
- Fennell, D.A. 2014. Ecotourism, 4th ed, Routledge.
- Hall, C.M., Lew, A.A. 2009. Understanding and Managing Tourism Impacts: An Integrated Approach, Routledge.
- Hall, C.M., Page, S.J. 2014. The Geography of Tourism and Recreation: Environment, Place and Space 4th ed, Routledge.
- Honey, M. 2008. Ecotourism and Sustainable Development, Second Edition: Who Owns Paradise? 2nd ed, Island Press.
- Kale, V.S. (Ed) 2017. Geomorphosites of India, Indian Institute of Geomorphologists.
- Lew, A., Hall, C.M., Timothy, D.J. 2008. World Geography of Travel and Tourism: A Regional Approach, Butterworth-Heinemann.
- Mason, P. 2017. Geography of Tourism: Image, Impacts and Issues, Goodfellow Publishers.
- Mowforth, M., Munt, I. 2015. Tourism and Sustainability: Development, globalisation and new tourism in the Third World, 4th ed, Routledge.
- Var, T., Gunn, C. Tourism Planning: Basics, Concepts, Cases, 4th ed, Routledge.
- Velvet, N. 2017. An Introduction to the Geography of Tourism, 2nd ed, Rowman & Littlefield Publishers.
- Williams, S., Lew, A.A. 2014. Tourism Geography: Critical Understandings of Place, Space and Experience, 3rd ed, Routledge.
- Wilson, J. 2017. The Routledge Handbook of Tourism Geographies, Routledge.

### 4.3 **GEO-A-SEC-B-4-03-TH – Rural Development** ✧ 90 Marks / 2 Credits

1. Rural Development: Concept, basic elements, measures of level of rural development [5]
2. Paradigms of rural development: Gandhian approach to rural development Lewis model of economic development, 'big push' theory of development, Myrdal's model of 'spread and backwash effects' [10]
3. Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY, MNREGA, Jan Dhan Yojana [10]
4. Rural Governance: Panchayati Raj System and rural development policies and Programmes in India [5]

#### References

- Gilg, A.W. 1985. An Introduction to Rural Geography, Edwin Arnold.
- Krishnamurthy, J. 2000. Rural Development: Problems and Prospects, Rawat Publications.
- Lee, D.A., Chaudhri, D.P. (Eds) 1983. Rural Development and State, Methuen Publishing.
- Misra, R.P., Sundaram, K.V. (Eds) 1979. Rural Area Development: Perspectives and Approaches, Sterling Publishers.
- Misra, R.P. (Ed.) 1985. Rural Development: Capitalist and Socialist Paths, Vol-1, Concept Publishing.
- Ramachandran, H., Guimaraes, J.P.C. 1991. Integrated Rural Development in Asia: Learning from Recent Experience, Concept Publishing.
- Robb, P. (Ed.) 1983. Rural South Asia: Linkages, Change and Development, Curzon Press.
- Singh, K., Shishodia, A. 2016. Rural Development: Principles, Policies, and Management, 4th ed, Sage.
- Wanmali, S. 1992. Rural Infrastructure, the Settlement System and Development of the Regional Economy in Southern India, International Food Policy Research Institute.
- Yugandhar, B.N., Mukherjee, N.(Eds) 1991. Studies in Village India: Issues in Rural Development, Concept Publishing.

#### 4.4 **GEO-A-SEC-B-4-04-TH – Sustainable Development** ✧ 90 Marks / 2 Credits

1. Sustainable development: Concept, historical background, components, and limitations [5]
2. Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty [10]
3. Determinants of global environmental issues: Population, income distribution, urbanisation, deforestation, and depletion / contamination water resources [9]
4. Global goals for sustainable development: Domain, conflict, crisis and compromise [6]

#### References

##### BOOKS:

Agyeman, J., Bullard, R.D., Evans, B. (Eds) 2003. Just Sustainabilities: Development in an Unequal World, the MIT Press.

Baker, S. 2006. Sustainable Development, Routledge.

Blewitt, J. 2017. Understanding Sustainable Development 3rd ed, Routledge.

Browne, S. 2017. Sustainable Development Goals and UN Goal-Setting, Routledge.

Elliott, J. 2012. An Introduction to Sustainable Development, 4th ed, Routledge.

Robbins, P. 2004. Political Ecology: A Critical Introduction, Blackwell Publishing.

Rogers, P., Jalal, K.F., Boyd, J.A. 2007. An Introduction to Sustainable Development, Routledge.

Sachs, J.D. 2015. The Age of Sustainable Development, Columbia University Press.

Williams, O.F. 2014. Sustainable Development, University of Notre Dame Press.

##### WEBSITE:

UNO Sustainable Development Knowledge Platform: [sustainabledevelopment.un.org](https://sustainabledevelopment.un.org)

## 5. GENERAL COURSE: CORE SUBJECTS

### 5.1 GEO-G-CC-1-01-TH – Physical Geography ✧ 60 Marks\* / 4 Credits

#### Unit I: Geotectonics

1. Earth's interior with special reference to seismology [3]
2. Plate Tectonics as a unified theory of global tectonics. Formation of major relief features of the ocean floor and continents according to Plate Tectonics [7]
3. Folds and faults: Classification and surface expressions [6]

#### Unit II: Geomorphology

4. Degradational processes: Weathering, mass wasting, and resultant landforms [4]
5. Principal geomorphic agents. Classification and evolution of fluvial, coastal, aeolian, and glacial landforms [12]
6. Basic models of slope evolution: Decline, replacement, and retreat. Systems approach and its significance in geomorphology [6].

#### Unit III: Hydrology

7. Global hydrological cycle: Its physical and biological role [2]
8. Run off: Controlling factors. Concept of ecological flow [3]
9. Drainage basin as a hydrological unit. Principles of watershed management [3]

#### Unit IV: Oceanography

10. Physical and chemical properties of ocean water. Distribution and determinants of temperature and salinity [4]
11. Ocean circulation, wave, and tide [7]
12. Marine resources: Classification and sustainable utilisation [3]

#### References

##### Books:

- Billings, M.P. 1971. Structural Geology, Pearson.
- Goudie, A.S. (Ed) 2004. Encyclopaedia of Geomorphology, vol. 1 & 2, Routledge.
- Gregory, K.J., Lewin, J. 2014. The Basics of Geomorphology: Key Concepts, Sage.
- Harvey, A. 2012. Introducing Geomorphology: A Guide to Landforms and Processes, Dunedin Academic Press.
- Kale, V.S., Gupta, A. 2001. Introduction to Geomorphology, Orient Longman.
- Kearey, P., Klepeis, K.A., Vine, F.J. 2011. Global Tectonics, 3rd ed, Wiley-India.
- Monkhouse, F.J. 1974. Principles of Physical Geography (2009-reprint), Platinum Publishers.
- Selby, M.J. 1986. Earth's Changing Surface, Oxford University Press.

---

\* Excluding 10 marks for attendance



Strahler, A. 2016. *Introducing Physical Geography*, 6th ed, Wiley.

Summerfield, M.J. 2003. *Global Geomorphology: An Introduction to the Study of landforms*, Longman.

#### WEBSITES:

British Society for Geomorphology: [geomorphology.org.uk](http://geomorphology.org.uk)

Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)

Indian Institute of Geomorphologists: [www.indiageomorph.org](http://www.indiageomorph.org)

International Association of Geomorphologists: [www.geomorph.org](http://www.geomorph.org)

Plaleomap Project: [www.scotese.com](http://www.scotese.com) & [www.youtube.com/user/cscotese](https://www.youtube.com/user/cscotese)

'This Dynamic Earth' (USGS): [pubs.usgs.gov/gip/dynamic/dynamic.html](http://pubs.usgs.gov/gip/dynamic/dynamic.html)

## 5.2 GEO-G-CC-1-01-P – Physical Geography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Megascopic identification of *mineral samples*: Bauxite, calcite, chalcopryrite, feldspar, galena, hematite, mica, quartz, talc, tourmaline [8]
2. Megascopic identification of *rock samples*: Granite, basalt, laterite, limestone, shale, sandstone, conglomerate, slate, phyllite, schist, gneiss, quartzite [12]
3. Extraction of physiographic information from Survey of India 1:50k topographical maps of plateau region: Construction and interpretation of relief profiles (superimposed, projected and composite), Construction and interpretation of relative relief map (c. 5'×5') [20]
4. Extraction of drainage information from Survey of India topographical maps of plateau region: Extraction and interpretation of channel features and drainage patterns, Construction of channel profiles [20]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

Farndon, J. 2012. *The Illustrated Guide to Rocks & Minerals*, Southwater.

Pillent, C. 2002. *Smithsonian Handbooks: Rocks & Minerals*, Dorling Kindersley.

Sarkar, A. 2015. *Practical Geography: A Systematic Approach*, 3rd ed, Orient Blackswan Private Ltd.

Sen, P.K. 1989. *Geomorphological Analysis of Drainage Basin: An Introduction to Morphometric and Hydrological Parameters*, University of Burdwan.

Sorrell, C.A. *Rocks and Minerals: A Guide to Field Identification*, St. Martin's Press.

**5.3 GEO-G-CC-2-02-TH – Environmental Geography** ✧ 60 Marks / 4 Credits**Unit I: Climatology**

1. Insolation and Heat Budget. Horizontal and vertical distribution of atmospheric temperature and pressure [5]
2. Overview of planetary wind systems. Indian Monsoons: Mechanisms and controls [6]
3. Atmospheric disturbances: Tropical and temperate cyclones. Thunderstorms [7]
4. Overview of global climatic change: Greenhouse effect. Ozone depletion [5]
5. Scheme of world climatic classification by Köppen [2]

**Unit II: Soil Geography**

6. Factors of soil formation [4]
7. Soil profile development under different climatic conditions: Laterite, Podsol, and Chernozem [6]
8. Physical and chemical properties of soils: Texture, structure, pH, salinity, and NPK status [6]
9. USDA classification of soils. Soil erosion and its management [4]

**Unit III: Biogeography**

10. Ecosystem and Biomes. Distribution and characteristics of tropical rainforest; Savannah, and hot desert biomes [6]
11. Plant types, occurrence and ecological adaptations: Halophytes, xerophytes, hydrophytes, and mesophytes [5]
12. Biodiversity: Types, threats and management with special reference to India [4]

**References****BOOKS:**

- Ahrens, C.D. 2012. Essentials of Meteorology: An Invitation to the Atmosphere. 9th Ed, Cengage Learning.
- Barry, R.G, Chorley R.J. 2009. Atmosphere Weather and Climate. 9th Ed, Routledge.
- Chapman J.L., Reiz, M.J. 1993. Ecology: Principle and Applications, Cambridge University Press.
- Cox, B., Moore, P.D., Ladle, R. 2016. Biogeography: An Ecological and Evolutionary Approach, 9th ed, Wiley-Blackwell.
- Daji, J.A., Kadam, J.R., Patil, N.D. 1996. A Textbook of Soil Science, Media Promoters and Publishers Pvt Ltd.
- Dash, M.C., 2001. Fundamental of Ecology, 2nd edition, Tata McGraw-Hill, New Delhi
- Dey, N. K., Ghosh. P. 1993. India: A Study in Soil Geography, Sribhumi Publishing Company.
- Lal, D.S. 2012. Climatology. Sharda Pustak Bhawan.
- Lutgens, F.K., Tarbuck, E.J., Tasa, D.G. 2015. The Atmosphere: An Introduction to Meteorology, 13th Ed, Pearson

- MacDonald, G. 2001. Biogeography: Introduction to Space, Time, and Life, Wiley
- Morgan, R.P.C. 1995. Soil Erosion and Conservation, 2nd edition, Longman.
- Sharma, P.D. 2011. Ecology and Environment, Rastogi Publications.
- Singer, M., Munns, D.N. 2005. Soils: An Introduction, 6th ed, Pearson.
- Weil, R.R. and Brady, N.C. 2016. The Nature and Properties of Soil, 15th edition, Pearson.

## WEBSITES:

- India Meteorological Department: [www.imd.gov.in](http://www.imd.gov.in)
- Intergovernmental Panel on Climate Change: [www.ipcc.ch](http://www.ipcc.ch)
- World Bank Climate Change Knowledge Portal: [sdwebx.worldbank.org/climateportal/index.cfm](http://sdwebx.worldbank.org/climateportal/index.cfm)
- World Meteorological Organization: [public.wmo.int/en](http://public.wmo.int/en)
- United Nations Environment Programmes: [www.unep.org](http://www.unep.org)

#### 5.4 GEO-G-CC-2-02-P – Environmental Geography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Interpretation of daily weather map of India (any one): Pre-Monsoon or Monsoon or Post-Monsoon [20]
2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) [20]
3. Determination of soil type by ternary diagram textural plotting [10]
4. Preparation of peoples' biodiversity register [10]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- USDA: United States Department of Agriculture. 2014. Soil Survey and Laboratory Methods Manual, Soil Survey Investigations Report No. 51.

## 5.5 **GEO-G-CC-3-03-TH – Human Geography** ✧ 60 Marks / 4 Credits

### Unit I: Economic Geography

1. Sectors of the economy: Primary, Secondary, Tertiary and Quaternary. Factors affecting location of economic activities [5]
2. Location of economic activities: Theories of von Thünen, Lösch, and Weber [5]
3. Location of industries with special reference to India: Cotton, Iron and Steel [5]
4. Globalisation and integration of world economies [5]

### Unit II: Social Geography

5. Human Society: Structure, functions, social systems. Population and migration: overview, causes and effects [5]
6. Types and characteristics of social organisations: Primitive, hunting–gathering, agrarian, industrial [5]
7. Race, Language and Religion: Origin, characteristics and spatial variations [6]
8. Social Issues: Diversity, conflict and transformation [5]

### Unit III: Cultural Geography

1. Carl Sauer: cultural landscape and its elements [6]
2. Rural and urban settlements: Differentiation in cultural landscapes [5]
3. Cultural regions and cultural realms [5]
4. Diffusion of culture and innovations [4]

### References:

- Aoyama, Y., Murphy, J.T., Hanson, S. 2010. Key Concepts in Economic Geography, Sage.
- Chandna, R.C. 2016. Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Fouberg, E.H., Murphy, A.B., de Blij H.J. 2015. Human Geography: People, Place, and Culture, 11th ed, Wiley.
- Ghosh, S. 1998. Introduction to Settlement Geography, Sangam Books Ltd.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Knox, P.L., Marston, S.A. 2014. Human Geography: Places and Regions in Global Context, 6th ed, Pearson Education Limited.
- Knox, P.L., McCarthy, L.M. 2011. Urbanization: An Introduction to Urban Geography, 3rd ed, Pearson Education Ltd.
- Moseley, W.G., Perramond, E., Hapke, H.M., Laris, P. 2013. An Introduction to Human-Environment Geography: Local Dynamics and Global Processes, Wiley-Blackwell.
- Norton, W. 2014. Human Geography, 8th ed, Oxford University Press.

Rubenstein, J.M. 2016. The Cultural Landscape: An Introduction to Human Geography, 12th ed, Pearson Education Limited.

Short, R.J. 2017. Human Geography: A Short Introduction, 2nd ed, Oxford University Press.

Wheeler, J.O., Muller, P.O., Thrall, G.I., Fik, T.J. 1998. Economic Geography, 3rd ed, Wiley.

Willington D. E., 2008: Economic Geography, Husband Press.

Wood, A., Roberts, A. 2010. Economic Geography: Places, Networks and Flows, Routledge.

## 5.6 **GEO-G-CC-3-03-P– Human Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. State-wise variation in occupational structure by proportional divided circles [15]
2. Time series analysis of industrial production using any two manufactured goods from India [20]
3. Measuring arithmetic growth rate of population comparing two datasets [15]
4. Nearest neighbour analysis: Rural example from Survey of India 1:50k topographical maps [10]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

#### BOOKS:

Hassan, M.I. 2005. Population Geography, Rawat publications.

Knowles, R. and Wareing, J. 1990. Economic and Social Geography, Made Simple Books.

Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.

#### WEBSITES:

Census of India: [censusindia.gov.in](https://censusindia.gov.in)

Open Government of India Data Platform: [data.gov.in](https://data.gov.in)

Trending Economics (India's industrial production): [tradingeconomics.com/india/industrial-production](https://tradingeconomics.com/india/industrial-production)

**5.7 GEO-G-CC-4-04-TH – Cartography ✧ 60 Marks / 4 Credits****Unit I: Scale and Projections**

1. Maps: Classification and types. Scales: Types, significance, and applications [3]
2. Coordinate systems: Polar and rectangular. Bearing: Magnetic and true, whole-circle and reduced [3]
3. Map projections: Classification, properties and uses. Concept and significance of UTM projection [8]

**Unit II: Topographic and Thematic Maps**

4. Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps [4]
5. Representation of data by dots and proportional circles [4]
6. Representation of data by isopleth and choropleth [4]
7. Principal national agencies producing thematic maps in India: GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform [5]

**Unit III: Remote Sensing and Geographical Information System**

8. Basics of Remote Sensing: Types of satellites, sensors, bands, and resolutions with special reference to the ISRO missions [10]
9. Principles of preparing standard FCCs and classified raster images [5]
10. Principles of Geographical Information System: Concepts of vector types, attribute tables, buffers, and overlay analysis [6]

**Unit IV: Surveying**

11. Basic concepts of surveying and survey equipment: Prismatic compass [6]
12. Basic concepts of surveying and survey equipment: Dumpy level [6]

**References****Books:**

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bhatta, B. 2011. Remote Sensing and GIS, 2nd ed, Oxford Univ. Press.
- Joseph, G. and Jegannathan, C. 2018. Fundamentals of Remote Sensing, 3rd ed, Universities Press.
- Kanetkar, T.P., Kulkarni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. 2011. Map Use: Reading, Analysis, Interpretation, 7th ed, Esri Press.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

Vaidyanadhan, R., Subbarao, K.V. 2014. Landforms of India from Topomaps and Images, Geological Society of India.

WEBSITES:

Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)

Indian Naval Hydrographic Department: [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)

National Bureau of Soil Survey and Land Use planning: [www.nbsslup.in](http://www.nbsslup.in)

Survey of India: [www.surveyofindia.gov.in](http://www.surveyofindia.gov.in)

International Society for Photogrammetry and Remote Sensing: [www.isprs.org](http://www.isprs.org)

ISRO Bhuvan 2D Platform: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)

NASA Landsat Science: [www Landsat.gsfc.nasa.gov](http://www Landsat.gsfc.nasa.gov)

National Remote Sensing Centre: [www.nrsc.gov.in](http://www.nrsc.gov.in)

USGS Global Visualization Viewer: [www.glovis.usgs.gov](http://www.glovis.usgs.gov)

## 5.8 GEO-G-CC-4-04-P – Cartography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Graphical construction of scales: Plain and comparative [10]
2. Construction of projections: Simple Conic with one standard parallel, Cylindrical Equal Area,, and Polar Zenithal Stereographic [20]
3. Construction of thematic maps: Proportional squares, proportional circles, choropleths, and isopleths [20]
4. Preparation of annotated thematic overlays from satellite standard FCCs of 1:50k [10]
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Gupill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press

## 6. GENERAL COURSE: DISCIPLINE SPECIFIC ELECTIVES

### 6.1 GEO-G-DSE-A-5-01-TH – Regional Development ✧ 60 Marks / 4 Credits

1. Definition of region. Types and need of regional planning [3]
2. Choice of a region for planning; characteristics of an ideal planning region; delineation of planning region [7]
3. Regionalization of India for planning (agro-ecological zones) [5]
4. Strategies/models for regional planning: growth pole model of Perroux [6]
5. Growth centre model in Indian context. Concept of village cluster [4]
6. Problem regions and regional planning. Backward regions and regional plans: special area development plans in India. Damodar Valley Corporation: Success and failure [5]
7. Changing concept of development and underdevelopment; Efficiency-equity debate [5]
8. Indicators of development: Economic, demographic, and environmental. Concept of human development [5]
9. Regional development in India, regional inequality, disparity and diversity [5]
10. Development and regional disparities in India since Independence: Disparities in agricultural development [5]
11. Development and regional disparities in India since Independence: Disparities in industrial development [5]
12. Development and regional disparities in India since independence : Disparities in human resource development in terms of education and health [5]

#### References

- Bhargava, G. 2001. Development of India's Urban, Rural, and Regional Planning in 21st Century: Policy Perspective, Gyan Publishing House.
- Chand, M., Puri, V.K. 2000. Regional Planning In India, Allied Publishers Ltd.
- Chandana, R.C. 2016. Regional Planning and Development, 6th ed, Kalyani Publishers.
- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Gore, C. 2011. Regions in Question: Space, Development Theory, and Regional Policy, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Hall, P., Tewdwr-Jones, M. 2010. Urban and Regional Planning, Routledge.
- Higgins, B., Savoie, D.J. 2017. Regional Development: Theories and Their Application, Routledge.
- Kulshetra, S.K. 2012. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.
- Kumar, A., Meshram, D.S., Gowda, K. (Eds) 2016. Urban and Regional Planning Education: Learning for India, Springer.
- Misra, R.P. 1992. Regional Planning: Concepts, Techniques, Policies and Case Studies, Concept Publishing.
- Rapley, J. 2007. Understanding Development: Theory and Practice in the Third World, Lynne Rienner.
- Ray, J. 2001. Introduction to Development & Regional Planning, Orient Blackswan.
- Raza, M. (Ed.) 1988. Regional Development: Contributions to Indian Geography, Heritage Publishers.
- Sen, A. 2000. Development as Freedom, Random House.



**6.2 GEO-G-DSE-A-5-01-P – Regional Development Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Delineation of regions according to given criteria using Weaver's method [15]
2. Determination of sphere of influence by gravity model [15]
3. Measurement of inequality by Lorenz curve and location quotient [15]
4. Preparation of Z-score and composite index from suitable data [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Pal S. K., 1998. Statistics for Geoscientists: Techniques and Applications, Concept Pub Co.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.

**6.3 GEO-G-DSE-A-5-02-TH – Geography of Tourism ✧ 60 Marks / 4 Credits**

1. Scope and Nature: Concepts and issues, tourism, recreation and leisure inter-relations; geographical parameters of tourism by Robinson [6]
2. Types of Tourism: Ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage, international, national [6]
3. Factors influencing tourism: Historical, natural, socio-cultural and economic; motivating factors for pilgrimages [5]
4. Spatial pattern of tourism: Spatial affinity; areal and locational dimensions comprising physical, cultural, historical and economic; International travel destinations- cultural and historical [4]
5. Impact of tourism: Physical, economic, social, and perceptive positive and negative impacts [4]
6. Environmental laws and tourism – current trends, spatial patterns and recent changes [5]
7. Role of foreign capital and impact of globalisation on tourism [4]
8. Recent trends of tourism: International and domestic (India) and local, sustainable tourism, Meeting Incentives Conventions and Exhibitions (MICE) [6]
9. Tourism in India: Tourism infrastructure; regional dimensions of tourist attraction; case studies of Dal lake, Goa, Garhwal Himalaya, desert and coastal areas [5]
10. Promotion of tourism: National tourism policy. Role of Internet [5]
11. Infrastructure and support system: Accommodation and supplementary accommodation, other facilities and amenities [5]
12. Tourism circuits-short and longer detraction: Agencies and intermediaries, Indian hotel industry [5]

**References**

- Boniface, B., Cooper, R., Cooper, C. 2016. Worldwide Destinations: The Geography of Travel and Tourism, vol. 1, 7th ed, Routledge.
- Edgell, D.L., Swanson, J. 2013. Tourism Policy and Planning: Yesterday, Today, and Tomorrow, Routledge.
- Fennell, D.A. 2014. Ecotourism, 4th ed, Routledge.
- Hall, C.M., Lew, A.A. 2009. Understanding and Managing Tourism Impacts: An Integrated Approach, Routledge.
- Hall, C.M., Page, S.J. 2014. The Geography of Tourism and Recreation: Environment, Place and Space 4th ed, Routledge.
- Honey, M. 2008. Ecotourism and Sustainable Development, Second Edition: Who Owns Paradise? 2nd ed, Island Press.
- Kale, V.S. (Ed) 2017. Geomorphosites of India, Indian Institute of Geomorphologists.
- Lew, A., Hall, C.M., Timothy, D.J. 2008. World Geography of Travel and Tourism: A Regional Approach, Butterworth-Heinemann.

- Mason, P. 2017. Geography of Tourism: Image, Impacts and Issues, Goodfellow Publishers.
- Mowforth, M., Munt, I. 2015. Tourism and Sustainability: Development, Globalisation and New Tourism in the Third World, 4th ed, Routledge.
- Var, T., Gunn, C. Tourism Planning: Basics, Concepts, Cases, 4th ed, Routledge.
- Velvet, N. 2017. An Introduction to the Geography of Tourism, 2nd ed, Rowman & Littlefield Publishers.
- Williams, S., Lew, A.A. 2014. Tourism Geography: Critical Understandings of Place, Space and Experience, 3rd ed, Routledge.
- Wilson, J. 2017. The Routledge Handbook of Tourism Geographies, Routledge.

#### 6.4 GEO-G-DSE-A-5-02-P – Geography of Tourism Lab ✧ 30 Marks / 3 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Tourist flow analysis [15]
2. Tourist flow projection from time-series data [15]
3. Isochronic map showing tourist resource and travel time [15]
4. Environmental Impact Assessment of tourism development: Preparation of questionnaire [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

- Hall, C.M., Lew, A.A. 2009. Understanding and Managing Tourism Impacts: An Integrated Approach, Routledge.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Velvet, N. 2017. An Introduction to the Geography of Tourism, 2nd ed, Rowman & Littlefield Publishers.
- Wilson, J. 2017. The Routledge Handbook of Tourism Geographies, Routledge.

##### WEBSITE:

Open Government of India Data Platform: [data.gov.in](https://data.gov.in)

**6.5 GEO-G-DSE-B-6-03-TH – Agricultural Geography** ✧ 60 Marks / 4 Credits**Unit I: Agriculture System**

1. Progress of Agricultural Geography with reference to allied disciplines. Approaches to Agricultural Geography [5]
2. Origin and dispersal of agriculture; Role of agriculture on human society [5]
3. Factors affecting agriculture. Classification of world agricultural systems [4]
4. Location and characteristics of major agricultural types: Intensive subsistence, extensive commercial and plantation agriculture [6]

**Unit II: Regionalisation of Agricultural Patterns**

5. Concept of cropping pattern, crop combination, gross and net cropped area, crop rotation [7]
6. A critical review and contemporary perspective of von Thünen model [3]
7. Definition and factors affecting yield. Measures of agricultural productivity [5]
8. Role of irrigation in Indian agriculture [5]
9. Problems of agriculture with special reference to South Asian countries [5]
10. World patterns of agricultural production and food security [5]
11. Land use survey and land classification (USDA) [5]
12. Globalization and agriculture with special reference to India [5]

**References**

- Basu, D.N., Guha, G.S. 1996. Agro-Climatic Regional Planning in India, Concept Publication.
- De, N.K., Jana, N.C. 1997. The Land: Multifaceted Appraisal and Management, Sribhumi Publishing.
- Grigg, D. 1995. An Introduction to Agricultural Geography, 2nd ed, Routledge.
- Hussain, M. 1978. Agricultural Geography, Rawat Publication.
- Ilbery, B.W. 1985. Agricultural Geography: A Social and Economic Analysis, Oxford University Press.
- Mohammad, N. 1992. New Dimension in Agriculture Geography, Concept Pub.
- Roling, N.G., Wagerutgers, M.A.E. (Eds.) 1998. Facilitating Sustainable Agriculture, Cambridge University Press.
- Shafi, M. 2005. Agricultural Geography, Pearson.
- Singh, J., Dhillon, S.S. 1994. Agricultural Geography, Tata McGraw Hill.
- Vaidya, B.C. 1997. Agricultural Land Use in India, Manak Publications.

**6.6 GEO-G-DSE-B-6-03-P – Agricultural Geography Lab** ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Preparation and interpretation of crop calendar using Ergograph [15]
2. Preparation of crop-combination regions by Weaver [15]
3. Determination and mapping of cropping intensity [15]
4. Determination and mapping of crop diversity [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Hussain, M. 1978. Agricultural Geography, Rawat Publication, Jaipur
- Knowles, R and Wareing, J. 1990. Economic and Social Geography, Made Simple Books, Rupa
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Shafi, M. 2005. Agricultural Geography, Pearson
- Singh, J., Dhillon, S.S. 1994. Agricultural Geography, Tata McGraw Hill, New Delhi

**6.7 GEO-G-DSE-B-6-04-TH – Population Geography ✧ 60 Marks / 4 Credits****Unit I: Population Dynamics**

1. Development of Population Geography as a field of specialization. Relation between population geography and demography. Sources of population data, their level of reliability and problems of mapping [6]
2. Population distribution: Density and growth. Classical and modern theories on population growth, Demographic transition model [6]
3. World patterns and determinants of population distribution and growth. Concept of optimum population [4]
4. Population distribution, density, and growth in India [4]

**Unit II: Population and Development**

5. Types of population composition: Age–sex, rural–urban, literacy and education [5]
6. Measurements of fertility and mortality. Concept of cohort and life table [5]
7. Population composition of India: Urbanisation and occupational structure [7]
8. Migration: Causes and types [3]
9. National and international patterns of migration with reference to India [5]
10. Population and development: Population–resource regions (Sekerman). Concept of human Development Index and its components [5]
11. Population policies in developed and less development countries. India's population policies. Population and environment, implication for the future [5]
12. Contemporary issues: Ageing of population, declining sex ratio, population and environment dichotomy, impact of HIV/AIDS [5]

**References****Books:**

- Barrett, H.R. 1995. Population Geography, Oliver and Boyd.
- Bartram, D. Poros, M. Monforte, P. 2014. Key Concepts in Migration, Sage.
- Binde, N., Kanitkar, H. 2000. The Principle of Population Studies, Himalaya Publications.
- Chandna, R.C. 2016. Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers.
- Dyson, T. 2011. Population and Development: The Demographic Transition, Rawat Publications.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Hassan, M.I. 2005. Population Geography, Rawat publications.
- Hussain, M. 1994. Human Geography, Rawat publications.
- Jhingan, M.L., Bhatt, B.K., Desai, J.N. 2014. Demography, Vrinda Publications.
- Jones, H. R. 2000. Population Geography, 3rd ed, Chapman.

Lutz, W., Warren, C.S., Scherbov, S. 2004. The End of the World Population Growth in the 21st Century, Earthscan.

Majumdar, P.K. 2013. India's Demography: Changing Demographic Scenario in India, Rawat Publications.

Mukherji, S. 2013. Migration in India: Links to Urbanization, Regional Disparities and Development Policies, Rawat Publications

Newbold, K.B. 2017. Population Geography: Tools & Issues, 3rd ed, Rowman & Littlefield Publishers.

Pacione, M. 2012. Population Geography: Progress and Prospect, Routledge.

#### WEBSITES:

Census of India: [censusindia.gov.in](http://censusindia.gov.in)

World Population History: [worldpopulationhistory.org](http://worldpopulationhistory.org)

World Population Review: [worldpopulationreview.com/continents/world-population](http://worldpopulationreview.com/continents/world-population)

## 6.8 GEO-G-DSE-B-6-04-P – Population Geography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Population projection by arithmetic method [15]
2. Population density mapping: State-wise for India [15]
3. Analysis of work participation rate: Total and gender-wise for India [15]
4. Analysis occupation structure by dominant and distinctive functions: Districts of West Bengal [15]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

##### BOOKS:

Hassan, M.I. 2005. Population Geography, Rawat publications.

Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers.

Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication, New Delhi.

Majumdar, P.K. 2013. India's Demography: Changing Demographic Scenario in India, Rawat Publications.

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.

##### WEBSITE:

Census of India: [censusindia.gov.in](http://censusindia.gov.in)

[censusindia.gov.in/2011census/dchb/WBA.html](http://censusindia.gov.in/2011census/dchb/WBA.html)

## 7. GENERAL COURSE: SKILL ENHANCEMENT ELECTIVES

### 7.1 GEO-G-SEC-A-3/5-01-TH – Coastal Management ✧ 90 Marks / 2 Credits

5. Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms [7]
6. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism [8]
7. Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution [8]
8. Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India. [7]

#### References

- Beatley, T., Brower, D., Schwab, A.K. 2002. An Introduction to Coastal Zone Management, 2nd ed, Island Press.
- Berkes, F. 2015. Coasts for People: Interdisciplinary Approaches to Coastal and Marine Resource Management, Routledge.
- Carter, R.W.G. 1988. Coastal Environments: An Introduction to the Physical, Ecological and Cultural Systems of Coastlines, Academic Press.
- Clark, J.R. 1996. Coastal Zone Management Handbook, CRC Press / Lewes Publishers.
- Clark, J.R. 1998. Coastal Seas: The Conservation Challenge, Blackwell Science.
- French, P. 1997. Coastal and Estuarine Management, Routledge.
- Kay, R. and Alder, J. 1999. Coastal Planning and Management, E & FN Spon / Routledge.
- Pethick, J. 1984. An Introduction to Coastal Geomorphology, Arnold.
- Woodrofe, C.D. 2002. Coasts: Form, Process and Evolution. Cambridge University Press.



**7.2 GEO-G-SEC-A-3/5-02-TH – Forest and Wildlife Management ✧ 90 Marks / 2 Credits**

1. Forest and wildlife management: Importance and strategies. Role and significance of stakeholders. Tangible and intangible benefits of forest and wildlife management [7]
2. Legal framework of forest and wildlife protection in India: The Indian Forest Act 1927, Forest Conservation Act 1980, Wild Life Protection Act 1972, Biodiversity Act 2002 [5]
3. Forests as common property resources. Forest rights: Tribals and forests. Gender dimension of forest management. Management of poaching and illegal logging. [8]
4. Principles of community participation and joint forest management. Causes and management of human–wildlife conflicts with special reference to Jangal Mahal, Sundarban and Duars [10]

**References****Books:**

Bailey, J.A. 1984. Principles of Wildlife Management, John Wiley & Sons.

Das, C., Bandyopadhyay, S. 2012. Sharing Space: Human–Animal Conflicts in Indian Sundarban, Progressive Publishers.

Fisher, M. 2016. Forest Conservation, Planning and Management, Callisto Reference.

Fryxell, J.M., Sinclair, A.R.E., Caughley, G. 2014. Wildlife Ecology, Conservation and Management, 3rd ed., Wiley-Blackwell.

Gopal, G. 2011. Fundamentals of Wildlife Management, Natraj Publishers.

Hosetti, B.B. 2008. Concepts in Wildlife Management, 3rd ed., Daya Publishing House.

Jacob, L. 2018. Principles of Forest Management, Syrawood Publishing House.

Negi, S. 2011. Forest Management in India, Bishen Singh Mahendra.

Panda, P.K., Das, C.R. (Eds) 2013. Forest Resources and its Management in India, Abhijeet Publications.

**WEBSITES:**

Department of Forest, Govt. of West Bengal: [www.westbengalforest.gov.in](http://www.westbengalforest.gov.in)

Forest Research Institute, Dehradun: [www.fri.res.in](http://www.fri.res.in)

Ministry of Environment, Forest and Climate Change, Govt. of India: [envfor.nic.in](http://envfor.nic.in)

### 7.3 GEO-G-SEC-B-4/6-03-TH – Rural Development ✧ 90 Marks / 2 Credits

1. Rural Development: Concept, basic elements, measuring the level of rural development [5]
2. Paradigms of rural development: Cumulative causation model, core-periphery model, Gandhian approach to rural development [10]
3. Area based approach to rural development: Drought prone area programmes, PMGSY, SJSY, MGNREGA, Jan Dhan Yojana [10]
4. Rural Governance: Panchayati Raj system, rural development policies and programmes in India – an overview [5]

#### References

- Gilg, A.W. 1985. An Introduction to Rural Geography, Edwin Arnold.
- Krishnamurthy, J. 2000. Rural Development: Problems and Prospects, Rawat Publications.
- Lee, D.A., Chaudhri, D.P. (Eds) 1983. Rural Development and State, Methuen Publishing.
- Misra, R.P., Sundaram, K.V. (Eds) 1979. Rural Area Development: Perspectives and Approaches, Sterling Publishers.
- Misra, R.P. (Ed.) 1985. Rural Development: Capitalist and Socialist Paths, Vol-1, Concept Publishing.
- Ramachandran, H., Guimaraes, J.P.C. 1991. Integrated Rural Development in Asia: Learning from Recent Experience, Concept Publishing.
- Robb, P. (Ed.) 1983. Rural South Asia: Linkages, Change and Development, Curzon Press.
- Singh, K., Shishodia, A. 2016. Rural Development: Principles, Policies, and Management, 4th ed, Sage.
- Wanmali, S. 1992. Rural Infrastructure, the Settlement System and Development of the Regional Economy in Southern India, International Food Policy Research Institute.
- Yugandhar, B.N., Mukherjee, N.(Eds) 1991. Studies in Village India: Issues in Rural Development, Concept Publishing.

**7.4 GEO-G-SEC-B-4/6-04-TH – Sustainable Development ✧ 90 Marks / 2 Credits**

1. Sustainable development: Concept, Historical background, components, limitations [5]
2. Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty [10]
3. Global environmental issues: Population, income and urbanization, health care, forest and water resources [8]
4. Global goals for sustainable development: Domain, conflict, crisis and compromise [7]

**References****BOOKS:**

Agyeman, J., Bullard, R.D., Evans, B. (Eds) 2003. Just Sustainabilities: Development in an Unequal World, the MIT Press.

Baker, S. 2006. Sustainable Development, Routledge.

Blewitt, J. 2017. Understanding Sustainable Development 3rd ed, Routledge.

Browne, S. 2017. Sustainable Development Goals and UN Goal-Setting, Routledge.

Elliott, J. 2012. An Introduction to Sustainable Development, 4th ed, Routledge.

Robbins, P. 2004. Political Ecology: A Critical Introduction, Blackwell Publishing.

Rogers, P., Jalal, K.F., Boyd, J.A. 2007. An Introduction to Sustainable Development, Routledge.

Sachs, J.D. 2015. The Age of Sustainable Development, Columbia University Press.

Williams, O.F. 2014. Sustainable Development, University of Notre Dame Press.

**WEBSITE:**

UNO Sustainable Development Knowledge Platform: [sustainabledevelopment.un.org](https://sustainabledevelopment.un.org)



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

**CBCS SYLLABUS**  
**IN**  
**HISTORY (HONOURS)**  
  
**CALCUTTA UNIVERSITY**  
  
**2018**

# University of Calcutta

## HIS – A

The Three - year B.A. Honours in History will comprise 6 Semesters. The curriculum will consist of 14 Core Courses (CC), 4 Discipline Specific Elective (DSE) courses, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC) Each course will be of 100 Marks. Attendance: 10 marks per Paper, Internal Assessment: 10 marks per paper.

### ➤ **Core Courses CC**

[Fourteen courses. Each course: 6 credits (5 theoretical segments TH+ 1 for tutorial related segment TU). Total: 84 credits.

- Each course carries 80 marks. Teaching time: 6x14 = 84 hrs  
Minimum 60 classes
- 65 marks for theoretical segment.
- Question Pattern for subjective/descriptive segment of 65 marks: 3 questions out of 6 (within 500 words) (10 x3 = 30) + 4 questions out of 8 within 250 words; 5x4 =20) + 15 objective type questions carrying 1 mark each (15 x 1 = 15).
- 15 marks for tutorial - related segments as suggested below (any one from each mode):
- Any one of the following modes: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/ --based on syllabus -related and/or current topics .[The modes and themes and/or topics are be decided by the concerned faculty of respective colleges.]
- Core courses: 2 each in Semesters 1 and 2; three each in Semesters 3 and 4; 2 each in Semesters 5 and 6.
- **IMPORTANT NOTES:**  
The Readings provided below include many of those of the UGC Model CBCS Syllabus in History. For further details of Course Objectives and additional references it is advised that the UGC model CBCS syllabus concerning relevant courses and topics should be given due importance and primarily consulted.
- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.

- The format is subject to the common structural CBCS format of the University.

### ➤ **Discipline- specific Elective Courses DSE**

Each course: 6 credits 5 for theoretical segment + 1 for tutorial-related segment. **(TH -5 TU-1)**

#### **DSE-A for Semester -5/6, DSE-B for Semester 5/6**

- Each course carries 80 marks. Minimum 60 classes.
  - 65 marks for theoretical segment.
  - Question Pattern for subjective/descriptive segment of 65 marks: 3 questions out of 6 (within 500 words;  $10 \times 3 = 30$ ) + 4 questions out of 8 (within 250 words;  $5 \times 4 = 20$ ) and 15 objective type questions carrying 1 mark each ( $15 \times 1 = 15$ ).
  - 15 marks for tutorial-related segments as suggested below (any one from each mode): Any one of the following modes: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/ based on syllabus related and/or current topics [The modes and themes and/or topics of a. and b. to be decided by the concerned faculty of respective colleges.]
- **HIS-A: Skill Enhancement/Skill-based Courses SEC** Each Course: 2 credits . **(Only theoretical.)**  
**SEC –A in Semester 3, SEC –B in Semester 4.**
- Each course carries 80 marks. Teaching time: 2 hrs per week or  $2 \times 14 = 28$  hrs
  - 80 marks for theoretical segment.
  - Question Pattern for subjective/descriptive segment of 80 marks: 4 questions out of 8 (within 500 words;  $10 \times 4 = 40$ ) + 5 questions out of 10 (within 250 words;  $5 \times 5 = 25$ ) and 15 objective type questions carrying 1 mark each ( $15 \times 1 = 15$ ).
- **HIS-A: Ability Enhancement Compulsory Courses ( AECC )** Each Course 2 credits
- AECC -1** : Communicative English/ MIL
  - AECC-2** : Environmental Studies
  - AECC -1 in Semester 1, AECC -2 in Semester 2**

### **IMPORTANT NOTES:**

## LIST OF COURSES FOR HISTORY HONOURS PROGRAMME

- The Readings provided below include many of those of the UGC Model CBCS Syllabus in History. For Course Objectives and references it is advised that the UGC model CBCS syllabus concerning relevant courses and topics should be given due importance and primarily consulted.
- \*Website: BA History (Honours):
- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.
- The format is subject to the common structural CBCS format of the University.

### HIS-A COURSES SEMESTER WISE

	<b>SEM-1</b>	<b>SEM-2</b>	<b>SEM-3</b>	<b>SEM-4</b>	<b>SEM-5</b>	<b>SEM-6</b>
<b>CC</b>	CC- 2TH/ 2TU <b>1&amp; 2</b>	CC- 2TH/2TU <b>3&amp;4</b>	CC- 3TH/3TU <b>5,6&amp;7</b>	CC- 3TH/3TU <b>8,9&amp;10</b>	CC-2TH/2TU <b>11,&amp;12</b>	CC- 2TH/2TU <b>13&amp;14</b>
<b>DSE</b>					DSE-A* DSE-B 2TH/2TU	DSE-A* DSE-B 2TH/2TU
<b>**GE</b>	GE-1 1TH/ 1TU	GE-2 1TH/ 1TU	GE-3 1TH/ 1TU	GE-4 1TH/ 1TU		
<b>AECC</b>	AECC-1 1TH/0 TU	AECC-2 1TH/ 0TU				
<b>SEC</b>			SEC-A 1TH/0 TU	SEC-B 1TH/0 TU		
<b>Total No. of Courses and Marks</b>	4x100= 400	4x100= 400	5x100= 500	5x100= 500	4x100= 400	4x100= 400
<b>Total Credits</b>	20	20	26	26	24	24

**\*HIS-A- DSE** – Candidates can choose any one paper in Semester -5 and another in Semester 6 taking one from Group –A and the other from Group –B

**\*\*HIS-A Generic Elective (GE):** The four Generic Elective papers (courses) for History (Honours) students will be from any subject other than History. Similarly History as Generic Elective will be offered to students having Honours in any subject other than History. The Generic Elective papers in History, for Honours students (for students having Honours in any subject other than History.) will be treated as Core Papers in History, for General students (for BA General Students having History. as a General paper)



COURSE CODE	(6 Credits per Core Course)
<b>Subject-Hon-Core-Semester-Paper-TH&amp;TU</b>	<b>CORE COURSES</b>
HIS-A-CC -1-1-TH&TU	
HIS-A-CC -1-2-TH&TU	
HIS-A-CC -2-3-TH&TU	
HIS-A-CC -2-4-TH&TU	
HIS-A-CC -3-5-TH&TU	
HIS-A-CC -3-6-TH&TU	
HIS-A-CC -3-7-TH&TU	
HIS-A-CC -4-8-TH&TU	
HIS-A-CC -4-9-TH&TU	
HIS-A-CC -4-10-TH&TU	
HIS-A-CC -5-11-TH&TU	
HIS-A-CC -5-12-TH&TU	
HIS-A-CC -6-13-TH&TU	
HIS-A-CC -6-14-TH&TU	
<b>Skill Enhancement Course (2 Credits per Course)</b>	
<b>GROUP-A</b>	<b>HIS-G-SEC-3-A(1) or A(2)-TH</b>
SEC-A-(1)	
SEC-A-(2)	
<b>GROUP-B</b>	<b>HIS-G-SEC-4-B(1) or B(2)-TH</b>
SEC-B-(1)	
SEC-B-(2)	
<b>DISCIPLINE SPECIFIC ELECTIVE (6 Credits per Course)</b>	
<b>GROUP-A</b>	<b>Semester 5: DSE A-1/ A-2 &amp; Semester-6: DSE A-3/A4TH&amp;TU</b>
DSE-A-(1)	HIS-A-DSE-A-1-5 TH&TU
DSE-A-(2)	HIS-A-DSE-A-2 -5TH&TU
DSE-A-(3)	HIS-A-DSE-A-3-6 TH&TU
DSE-A-(4)	HIS-A-DSE-A-4 -6 TH&TU
<b>GROUP-B</b>	<b>Semester 5: DSE B-1/ B-2 &amp; Semester-6: DSE A3/A4 TH&amp;TU</b>
DSE-B-(1)	HIS-A-DSE-B--1 -5TH&TU
DSE-B-(2)	HIS-A-DSE-B-2 -5TH&TU
DSE-B-(3)	HIS-A-DSE-B-3-6 TH&TU
DSE-B-(4)	HIS-A-DSE-B-4-6 TH&TU
<b>➤ DISCIPLINE SPECIFIC ELECTIVE</b>	
➤ Note: Choose any one paper in Semester -5 and another in Semester 6 taking one from Group –A and the other from Group –B	
<b>GENERIC ELECTIVE (6 Credits per Course)</b>	
➤ Note: Core Courses Designed for General Programme will be offered as Generic Elective courses for students of other Disciplines.	

## **Structure of B.A (Hons. ) History Course under CBCS** **HIS-A-CC-1-14- TH & TU**

- Paper 1 **SEM -1:** History of India (From the Earliest times to C 300 BCE)
- Paper 2 **SEM-1:** Social Formations and Cultural Patterns of the Ancient World other than India
- Paper 3 **SEM-2:** History of India (c 300 BCE to c.750 CE)
- Paper 4 **SEM-2:** Social Formations and Cultural Patterns of the Medieval World other than India
- Paper 5 **SEM-3:** History of India (c.750 – 1206)
- Paper 6 **SEM-3:** Rise of the Modern West –I
- Paper 7 **SEM-3:** History of India (c.1206 – 1526)
- Paper 8 **SEM-4:** Rise of the Modern West – II
- Paper 9 **SEM-4:** History of India (c.1526-1605)
- Paper 10 **SEM-4:** History of India (c.1605 – 1750s)
- Paper 11 **SEM-5:** History of Modern Europe (c.1780-1939)
- Paper 12 **SEM-5:** History of India (c.1750s– 1857)
- Paper 13 **SEM-6:** History of India (c. 1857 – 1964)
- Paper 14 **SEM-6 :** History of World Politics: (1945-1994)

### **HIS-A- DSE TH & TU**

**Discipline Specific Elective DSE (Any Four) Choosing any one paper in Semester -5 and another in Semester 6 taking one from Group –A and the other from Group –B**

- Paper 1 **DSE-A-1 SEM -5:** History of Bengal (c.1757-1905)
- Paper 2 **DSE-A-3 SEM -6:** History of Bengal (c.1905-1947)
- Paper 3 **DSE-B-2 SEM -5:** History of Southeast Asia – The 19<sup>th</sup> Century
- Paper 4 **DSE-B-4 SEM -6:** History of Southeast Asia – The 20<sup>th</sup> Century
- Paper 5 **DSE-B-1 SEM -5:** History of Modern East Asia – I China (c.1840 – 1949)
- Paper 6 **DSE-B-3 SEM -6:** History of Modern East Asia – II Japan (c.1868 – 1945)
- Paper 7 **DSE-A-2 SEM -5:** History of United States of America – I (c.1776 – 1945)
- Paper 8 **DSE-A-4 SEM -6:** History of United States of America – II (c.1776-1945)

**Skill Enhancement Courses SEC –A & B (Any Two) Choosing one from group-A and one from group-B) in Semester 3 and 4**

- SEC -A 1: **SEM-3** Archives and museums
- SEC -B 1: **SEM-4** Understanding Popular Culture
- SEC-A 2: **SEM-3** Understanding Heritage
- SEC-B 2: **SEM-4** Art Appreciation: an Introduction to Indian Art

**\*Generic Elective Courses (GE) - Same as Core courses (CC) offered in the BA General Syllabus.**

**Detailed Syllabus History Honours**  
**HIS-A CC –1- 14 TH&TU**  
**CC 1 : History of India From the earliest times to C 300 BCE**

**I. Reconstructing Ancient Indian History:**

- a) Early Indian notions of History
- b) Sources and tools of historical reconstruction.
- c) Historical interpretations (with special reference to gender, environment, technology and regions)

**II. Hunter-gatherers and the advent of food products**

- a) Paleolithic cultures- sequence and distribution; stone industries and other technological developments.
- b) Mesolithic cultures – regional and chronological distribution; new developments in technology and economy; rock art.
- c) Neolithic and Chalcolithic cultures: distribution and subsistence pattern

**III. The Harappan civilization:**

Origins; settlement patterns and town planning; agrarian base; craft productions and trade; social and political organization; religious beliefs and practices; art; the problem of urban decline and the late/post-Harappan traditions.

**IV. Cultures in transition**

Settlement patterns, technological and economic developments; social stratification; political relations; religion and philosophy; the Aryan problem.

- a) North India (circa 1500 BCE – 300 BCE)
- b) Central India and the Deccan (circa 1000 BCE – circa 300 BCE)

**Essential Readings**

Agarwal D.P, The Archaeology of India, London, 1982.  
Basham A.L, The Wonder That Was India, London, 1954.  
Chakrabarti Dilip Kumar, An Oxford Companion to Indian Archaeology, New Delhi, 2006.  
Chakrabarti Dilip Kumar, India, An Archaeological History, Delhi, 1999  
Sharma R.S, Looking for the Aryans, 1995.  
Sharma R.S, Material Cultures and Social Formations in Ancient India, New Delhi, 1983.  
Thapar Romila, Early India: From the Origins to AD 1300, London, 2002

**Suggested Readings**

Basham A.L ed. A Cultural History of India, New Delhi, 1975.  
Ghosh Amalananda, The City in Early Historic India, Shimla, 1973.  
Altekar A.S, The Position of Women in Hindu Civilization from Pre-historic times to the Present Day, New Delhi, 1962.  
Chattopadhyaya B.D, Studying Early India: Archaeology, Texts and Historical Issues. New Delhi, 2003.  
Sircar D.C, Indian Epigraphy, New Delhi, 1965.  
Kosambi D.D, An Introduction to the Study of Indian History, Bombay, 1956  
Kosambi D.D, Combined Methods in Indology and Other Writings, Edited and Introduced By B.D Chattopadhyaya  
Jha D.N, Ancient India: An Introduction, New Delhi, 1998  
Chattopadhyay D.P, Science and Society in Ancient India, Calcutta, 1977.  
Erdosy George, Urbanization in Early Historic India, Oxford, 1988.

Allchin F.R. (ed). The Archaeology of Early Historic South Asia: The Emergence of Cities and States, Cambridge, 1995.

Staal Frits, Discovering the Vedas : Origins, Mantras, Rituals Insights, New Delhi, 2008.

Possehl G.L, ed. Harappan Civilization- A Recent Perspective, Delhi, 1993 (second edition).

Michell George, The Penguin Guide to the Monuments of India. London, 1989.

Raychaudhuri H.C, Political History of Ancient India with a commentary by B.N.Mukherjee, New Delhi, 1996 (8th edition)

Habib Irfan (General Editor), A People's History of India (Volume 1,2,3), New Delhi.

Shastri K.A Nilakantha, A History of South India, Madras, 1974 (4th Edition)

Lahiri Nayanjyot, The Decline and Fall of the Indus Civilization, New Delhi, 2000.

Ray Nihar Ranjan, Brajadulal Chattopadhyaya, V.R. Mani and Ranabii Chakravarti eds. A Source Book of Indian Civilization, Kolkata, 2000.

Sahu Bhairabi Prasad (ed.). Iron and Social Change in Early India. New Delhi: Oxford University Press, 2006.

Chakraborty Ranabir, Exploring early India, upto circa AD 1300

Kochar R., The Vedic People, New Delhi. 2000.

Majumdar R.C (General Editor), The History & Culture of the Indian People, Volumes I – III, Bombay, 1951,1968, 1970

Sharma R.S, Advent of the Aryans, Manohar, 1999.

Sharma R.S, Aspects of Political Ideas and Institutions in Ancient India. New Delhi, 2005 (reprint).

Sharma R.S, India's Ancient Past, New Delhi, 2005.

Sharma R.S, Perspectives in the Social and Economic History of Early India, New Delhi, 1983.

Sharma R.S, Sudras in Ancient India.

Salomon Richard, Indian Epigraphy: A Guide to the Study of Inscriptions in Sanskrit, Prakrit, and Other Indo-Aryan Languages. New York, 1998.

Thapar Romila (et al). India: Historical Beginnings and the Concept of the Aryan, New Delhi, 2006

Thapar Romila, From Lineage to State, Delhi, 1996 (2nd Edition)

Ratnagar Shireen, (ed), Women in Early Indian Societies. New Delhi, 1999.

Ratnagar Shireen, The End of the Great Harappan Tradition, Delhi, 2000

Roy Kumkum, The Emergence of Monarchy in North India: eighth to fourth centuries BC, NewDelhi, 1994

Ratnagar Shireen, Understanding Harappa, Delhi 2001

Saraswati S.K, A Survey of Indian Sculpture, New Delhi, 1975 (second edition)

Bhattacharji Sukumar, Women and Society in Ancient India. Calcutta, 1994.

Singh Upinder, A History of Ancient and Early Medieval India. Delhi, 2008.

বাসাম এ এল, অতীতের উজ্জ্বল ভারত, (The Wonder That Was India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৫

চক্রবর্তী রণবীর, ভারত ইতিহাসের আদি পর্ব, কলকাতা, ২০০৭

হাবিব ইরফান, ভারতবর্ষের সাধারণ মানুষের ইতিহাস

প্রথম খন্ড – প্রাক-ইতিহাস, (Pre-history) এন বি এ, কলকাতা, ২০০২

দ্বিতীয় খন্ড: সিন্ধু সভ্যতা, (The Indus Civilisation) এন বি এ, কলকাতা, ২০০২

তৃতীয় খন্ড – বৈদিক সভ্যতা, (The Vedic Age) এন বি এ, কলকাতা, ২০০২

ঝা ডি এন, আদি ভারত – একটি সংক্ষিপ্ত ইতিহাস, (Ancient India: An Introduction), প্রগ্রেসিভ পাবলিশার্স, কলকাতা

কোশাম্বী ডি ডি, ভারত ইতিহাস চর্চার ভূমিকা (An Introduction to the Study of Indian History) বাগচিকে পি এন্ড কোং, কলকাতা, ২০০২

রত্নাগর শিরিণ, হরপ্পা সভ্যতার সন্ধানে (Understanding Harappa) এন বি এ, কলকাতা, ২০০৩  
 রায়চৌধুরী হেমচন্দ্র, প্রাচীন ভারতের রাজনৈতিক ইতিহাস, (Political History of Ancient India),  
 পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা  
 থাপার রোমিলা, ভারতবর্ষের ইতিহাস, ওরিয়েন্ট লংম্যান, কলকাতা  
 ভট্টাচার্য নরেন্দ্রনাথ, প্রাচীন ভারতে ধর্ম, কলকাতা, ১৯৮৮  
 ভট্টাচার্য নরেন্দ্রনাথ, প্রাচীন ভারতীয় সমাজ, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা  
 ভট্টাচার্য সুকুমারী, ইতিহাসের আলোকে বৈদিক সাহিত্য, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা  
 ভট্টাচার্য সুকুমারী, প্রাচীন ভারত- সমাজ ও সাহিত্য, আনন্দ পাবলিশার্স, কলকাতা  
 চক্রবর্তী দিলীপ কুমার - ভারতবর্ষের প্রাক ইতিহাস আনন্দ পাবলিশার্স, কলকাতা, ১৯৯৯  
 গঙ্গোপাধ্যায় দিলীপ কুমার - ভারত ইতিহাসের সন্ধানে, (২ খন্ডে), ২০০৭  
 চক্রবর্তী রণবীর, প্রাচীন ভারতের অর্থনৈতিক ইতিহাসের সন্ধানে, আনন্দ পাবলিশার্স, কলকাতা ২০০২  
 (সংশোধিত সংস্করণ)  
 চানানা দেবরাজ, প্রাচীন ভারতে দাস প্রথা, (Slavery in Ancient India as depicted in Pali and  
 Sanskrit Texts), কে পি বাগচি এন্ড কোং, কলকাতা ১৯৯৫  
 রায় নীহাররঞ্জন, বাঙালির ইতিহাস, কলকাতা, ১৯৮০ (দ্বিতীয় সংস্করণ)  
 শর্মা রামশরণ, প্রাচীন ভারতে বস্তুগত সংস্কৃতি ও সমাজ সংগঠন, (Material Cultures and Social  
 Formations in Ancient India), ওরিয়েন্ট লংম্যান, ১৯৯৮  
 শর্মা রামশরণ, আদি মধ্যযুগের ভারতীয় সমাজ : সমস্ত-প্রক্রিয়া বিষয়ে এক সমীক্ষা (Early  
 Medieval Indian Society : A Study in Feudalism) ওরিয়েন্ট লংম্যান, ২০০৩  
 শর্মা রামশরণ, ভারতের সমাজতন্ত্র, (Indian Feudalism), কে পি বাগচি এন্ড কোং, কলকাতা  
 শর্মা রামশরণ, আর্যদের অনুসন্ধান, (Looking for the Aryans), প্রগ্রেসিভ পাবলিশার্স, কলকাতা  
 শর্মা রামশরণ, আর্যদের ভারতে আগমন, (Advent of the Aryans), ওরিয়েন্ট লংম্যান, ২০০১  
 শর্মা রামশরণ, প্রাচীন ভারতে শূদ্র, (Sudras in Ancient India), কে পি বাগচি এন্ড কোং, কলকাতা  
 থাপার রোমিলা, অশোক ও মৌর্যদের পতন, (Asoka and the Decline of the Mauryas), কে পি  
 বাগচি এন্ড কোং, কলকাতা  
 চট্টোপাধ্যায় সুনীল, প্রাচীন ভারতের ইতিহাস (১ম খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, একাদশ  
 মুদ্রণ, এপ্রিল ২০০৪  
 চট্টোপাধ্যায় সুনীল, প্রাচীন ভারতের ইতিহাস (২য় খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ৮ম মুদ্রণ,  
 ফেব্রুয়ারি ২০০৪  
 মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য  
 পুস্তক পর্ষদ, প্রথম মুদ্রণ নভেম্বর ১৯৯৭

## **CC-2 : Social Formations and Cultural Patterns of the ancient world other than India**

**I. Evolution of human kind:** Paleolithic and Mesolithic cultures – Role of kinship social institutions in the development of early societies.

**II. Food production :** beginnings of agriculture and animal husbandry.

**III. Bronze Age civilizations,** with reference to any one of the following : i) Egypt (Old Kingdom); ii) China (Shang), economy, social stratification, state structure, religion.

**IV. Nomadic groups in Central and West Asia;** Debate on the advent of iron and its implications.

**V. Slave society in ancient Greece & Rome:** agrarian economy, urbanization, trade.

**VI. Polis in ancient Greece:** Athens and Sparta; Greek culture.

### **Essential Readings**

Farooqui Amar, Early Social Formations. Manak Publications Pvt. Ltd. 2002

B.Fagan, People of the Earth. : an introduction to world prehistory

New York, NY HarperCollins College Publishers 1977

B.Trigger, Ancient Egypt : A Social History. Cambridge University Press, 1983

Bai Shaoyi, An Outline History of China. Beijing : Foreign Languages Press, 1982.

Burns and Ralph, World Civilisations.

Cambridge History of Africa, Vol.I. Cambridge University Press ,1982

G.Clark, World Prehistory: A New Perspective Cambridge University Press, 1977.

Jacquetta Hawkes, First Civilisations. life in Mesopotamia, the Indus Valley and Egypt. The history of human society. New York: Knopf, 1973.

M.I.Finley, The Ancient Economy. University of California Press 1999.

R.J.Wenke, Patterns in Prehistory Oxford University Press, USA; 5th edition 2006

UNESCO Series: History of Mankind, Vols. I –III/ or New ed. History of Humanity.1963

V.Gordon Childe, What happened in History. Peregrine Books 1985

### **Suggested Readings**

A.Hauser, A Social History of Art, Vol I. Routledge, 1999.

Glyn Daniel, First Civilisations. New. York: Thomas Y. Crowell (Apollo. Editions), 1968

J.D. Bernal, Science in History, Vol.I. Cambridge: The MIT Press, Massachusetts Institute of Technology, 1971

Salia Ikram, Death & Burial in Ancient Egypt (American University in Cairo Press, 2015)

V.Gordon Childe, Social Evolution.

Martin Bernal, Black Athena; the Afro Asiatic Roots of Classical Civilization Brunswick: Rutgers University Press, 1991.

গৰ্ডন চাইল্ড, সোশ্যাল ইভলিউশন, অসিত চৌধুৰী (ভাষান্তৰ), দীপায়ন, কলকাতা, ১৪০৫ বঙ্গাব্দ।

গৰ্ডন চাইল্ড, ম্যান মেক্স হিমসেলফ, মগন দাস (ভাষান্তৰ), দীপায়ন, কলকাতা, ১৯৯৯।

গৰ্ডন চাইল্ড, হোয়াট হ্যাপেনড ইন হিষ্ট্রি, দীপায়ন, কলকাতা।

জন ডেসমন্ড বার্নাল, ইতিহাসে বিজ্ঞান, আনন্দ, কলকাতা।

কুণাল চট্টোপাধ্যায় ও সুজাত ভদ্র, প্রাচীন গ্রীসের সমাজ ও স্নগস্কৃতি, প্রগ্রেসিভ, কলকাতা ।

সুপ্রতিম দাস, গ্রীস অনুসন্ধান, প্রগ্রেসিভ, কলকাতা ।

## **CC-3 : History of India C 300 BCE to C 750 CE**

### **I. Economy and Society (circa 300 BCE to circa CE 300)**

- a) Expansion of agrarian economy : production relations
- b) Urban growth: north India, central India and the Deccan; craft Production: trade and trade routes; coinage
- c) Social stratification: class, Varna, Jati, untouchability; gender; marriage and property relations.

### **II. Changing political formations (circa 300 BCE to circa CE 300) :**

- a) The Mauryan Empire
- b) Post-Mauryan Polities with special reference to the Kushanas and the Satavahanas; Gana-Sanghas

### **III. Towards early medieval India (circa CE fourth century to CE 750):**

- a) Agrarian expansion: land grants, changing production relations; graded land rights and peasantry.
- b) The problem of urban decline: patterns of trade, currency, and urban settlements.
- c) Varna, proliferation of Jatis: changing norms of marriage and property
- d) The nature of polities: the Gupta empire and its contemporaries: post-Gupta polities- Pallavas, Chalukyas, and Vardhanas.

### **IV. Religion, philosophy and society (circa 300 BCE – CE 750)**

- a) Consolidation of the Brahmanical tradition : dharma, Varnashram, Purushastras, Samskaras.
- b) Theistic cults (from circa second century BC): Mahayana; the Puranic tradition.
- c) The beginnings of Tantricism.

### **V. Cultural developments (circa 300 BCE to circa CE 750):**

- a) A brief survey of Sanskrit, Pali, Prakrit and Tamil literature. Scientific and technical treatises.
- b) Art and architecture and forms and patronage; Mauryan , Post-Mauryan, Gupta , Post-Gupta

### **Essential Readings**

- Chattopadhyaya B.D, The making of early Medieval India, 1994.  
Chattopadhyaya B.D, Bharatvarsha and other Essays, Permanent Black, Delhi, 2017.  
Chattopadhyaya D.P, History of Science and Technology in Ancient India, 1986.  
Chakravarti Ranabir, Exploring Early India upto AD 1300, Primus, Delhi, 2016.  
Huntington Susan, The Art of Ancient India: Buddhist, Hindu, and Jain, New York, 1985.  
Kosambi D.D, An Introduction to the Study of Indian History, 1975.  
Maity S.K, Economic Life in Northern India in the Gupta Period, 1970.  
Sahu B.P (ed.), Land System and Rural Society in Early India, 1997.  
Sastri K.A.N, A History of South India.  
Sharma R.S, Indian Feudalism, 1980.  
Sharma R.S, Urban Decay in India, c.300- c1000, Delhi, Munshiram Manohar Lal, 1987  
Singh Upinder, A history of Ancient and early Medieval India, 2008.  
Thapar Romila, Asoka and the Decline of the Mauryas, 1997

### **Suggested Readings**

- Agarwal Asvini, The Rise and Fall of the Imperial Guptas, New Delhi, 1988.  
Bhattacharya N.N, Ancient Indian Rituals and Their Social Contents, 2nd ed., 1996.  
Bhattacharya N.N, History of Tantric Religion, 1982

Chakravarti Uma, The Social Dimensions of Buddhism. New Delhi: Oxford University Press, 1987.

Chakravarti Uma, Trade and Traders in Early Indian Society, New Delhi, 2007 (revised edition)

Champakalakshmi R, Trade, Ideology and Urbanization: South India: 300BC to AD 1300, Delhi, 1996.

Chanana D., Slavery in Ancient India as Depicted in Pali and Sanskrit Texts, Delhi, 1960.

Gupta P.L, Coins, 4th ed., 1996.

Harle J.C, The Art and Architecture of the Indian Subcontinent, 1987.

Lahiri Nayanjot, Ashoka in Ancient India, 2015

Majumdar R.C and Altekar A.S eds. The Vakataka Gupta Age, Varanasi, 1955.

Mukherjee B.N, Kushana Studies, New Perspectives, Kolkata, 2004

Mukherjee B.N, The Character of the Maurya Empire, Kolkata, 2000

Mukherjee B.N, The Rise and Fall of the Kushana Empire, Calcutta, 1989.

Pollock Sheldon, The Language of the Gods in the World of Men. Sanskrit, Culture and Power in Pre-modern India. New Delhi, 2006.

Ray H.P, Winds of Change, 1994.

Ray Nihar Ranjan, Maurya and Post Maurya Art, New Delhi, 1975.

Sharma R.S, Perspectives in the Social and Economic History of Early India, New Delhi, 1983.

Shastri A.M ed. The Age of the Vakatakas, Delhi, 1992.

Singh Upinder, A History of Ancient and Early Medieval India. Delhi, 2008.

Smith Bardwell ed., Essays in Gupta Culture, New Delhi, 1983.

Thapar Romila, Asoka and the Decline of the Mauryas, New Delhi, 2000

Thapar Romila, Early India: From the origins to 1300, London, 2002

Thapar Romila, The Mauryas Revisited, Calcutta, 1987.

Veluthat Kesavan, The Early Medieval in South India, New Delhi, 2009

রোমিলা থাপার, অশোক ও মৌর্যদের পতন, (Asoka and the Decline of the Mauryas), কে পি বাগচি এন্ড কোং, কলকাতা

সুনীল চট্টোপাধ্যায়, প্রাচীন ভারতের ইতিহাস (১ম খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, একাদশ মুদ্রণ, এপ্রিল ২০০৪

সুনীল চট্টোপাধ্যায়, প্রাচীন ভারতের ইতিহাস (২য় খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ৮ম মুদ্রণ, ফেব্রুয়ারি ২০০৪

হীরেন্দ্রনাথ মুখোপাধ্যায়, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, প্রথম মুদ্রণ নভেম্বর ১৯৯৭



## **CC-4 : Social Formations and Cultural patterns of the Medieval World other than India**

- **CANDIDATES CAN CHOOSE EITHER GROUP- A OR B, GROUP –C IS COMPULSORY**

### **GROUP- A**

#### **I. Arabia: Bedouin Society:**

- a) Tribal Organization (families and clans)
- b) System of Alliances
- c) Economic Structure
- d) Language and poetry

#### **II. The Steppes:**

- a) A brief outline of Central Asia (Geography and History)
- b) Mongols :
  - (i) The strategic location of Mongolia;
  - (ii) Mongol Society: Tribal organization, different tribal formations, unification of the tribes under Chinghiz Khan
  - (iii) Brief outlines of the Mongol Empire: Case Study: The Golden Horde, Tatar rule in Russia
- c) The Turks:
  - (i) Conversion of the Turks to Islam from Buddhism
  - (ii) Brief history of the Seljuks and the Ottomans
  - (iii) The rise of the Ottoman Empire
  - (iv) Ottoman Society and Administration.

### **GROUP- B**

#### **III. Crisis of the Roman Empire and its principal causes: Historiography**

#### **IV. Religion and Culture in Medieval Europe:** Society, Religious organizations (Church and Monastery), Carolingian renaissance 12<sup>th</sup> century renaissance, Position of Women in Medieval Europe, Witchcraft and Magic, Urbanization, Rise of University, Medieval art and architecture.

#### **V. The feudal society its origins and its crisis: Historiography**

### **GROUP- C**

#### **VI. Judaism and Christianity under Islam**

#### **Essential Reading:**

- Ali, Syed Ameer, A Short History of the Saracens, Macmillan, 1900.
- Allsen, Thomas T., Culture and Conquest in Mongol Eurasia (Cambridge), Cambridge University Press, March 2004.
- Baker, Simon, Ancient Rome The Rise and Fall of an Empire, Ebury Publishing, 2006.
- Barthold, V., A Secret History of the Mongols, Cheng & Tsui Co, June 1999.
- Biran Michael, The Empire of the Qara Khitai in Eurasian History Between China and the Islamic World, Cambridge University Press, June 2008.
- Bloch, Marc, Feudal Society (2 Vols), Aakar Books, Revised Edition, July, 2017.
- Brundage (ed.), The Crusades, Marquette University Press, 1962.
- Burke, Edmund, III & Ira M. Lapidus, Islam, Politics and Social Movements, University of California Press, 1988.
- Burke, Peter, Popular Culture, Ashgate Publishing Ltd, 2009.

Cohen, Mark, *Under Crescent and Cross The Jews in the Middle Ages*, Princeton University Press, 2008.

Deansley, Margaret, *A History of Early Medieval Europe, 476 to 911*, Methuen, 1956.

Dobb, Maurice Dobb, *Studies in the Development of Capitalism*, Routledge, First Edition, March, 1965.

Goff, Le, *Medieval Civilizations (400-1500)*, Blackwell Publishing, August 1991.

Hitti, Philip K., *History of the Arabs*, Macmillan Education Ltd., First Edition, 1937.

Inalcik, Halil, *The Ottoman Empire*, Phoenix, December 2001.

Lewis, Bernard, *The Arabs in History*, Oxford University Press, 6<sup>th</sup> Edition, May 2002.

Lewis, Bernard, *The Jews of Islam*, 1984.

Man, John, *The Mongol Empire*, Penguin Random House, May 2015.

Pirenne, Heim, *Medieval Cities*, Princeton University Press, 1969.

Smith, Leslie and Leyser, Conrad; *Motherhood, Women and Society in Medieval Europe (400-1400)*, Ashgate Publishing Ltd, 2011.

Stuard, Susan Mosher (Ed.), *Women in Medieval History and Historiography*, University of Pennsylvania Press; New edition, December, 1988.

## **CC-5 : History of India (CE 750 – 1206)**

### **I. Studying Early Medieval India:**

Historical geography sources: texts, epigraphic and numismatic data. Debates on Indian Feudalism, rise of the Rajputs and the nature of the state.

### **II. Political Structures:**

- a) Evolution of political structures: Rashtrakutas, Palas, Pratiharas, Rajputs and Cholas.
- b) Legitimization of kingship; Brahmanas and temples; royal genealogies and rituals
- c) Arab conquest of Sindh : nature and impact of the new set-up; Ismaili Dawah
- d) Cause and consequences of early Turkish invasions : Mamud of Ghazna; Shahab-ud-Din of Ghur.

### **III. Agrarian structure and social change:**

- a) Agricultural expansion; crops
- b) Landlords and peasants
- c) Proliferation of castes: status of untouchables
- d) Tribes as peasants and their place in the Varna order

### **IV. Trade and Commerce**

- a) Inter-regional trade
- b) Maritime trade
- c) Forms of exchange
- d) Process of urbanization
- e) Merchant guilds of South India

### **V. Religious and Cultural developments:**

- a) Bhakti, Tantrism, Puranic traditions; Buddhism and Jainism; Popular religious cults.
- b) Islamic intellectual traditions: Al-Biruni; Al-Hujwiri
- c) Regional languages and literature

d) Art and architecture: Evolution of regional styles.

### **Essential Readings**

Chattopadhyaya, B.D, The Making of Early Medieval India, 1994.  
Karashima, N., South Indian History and Society (Studies from Inscriptions, AD 850 – 1800)  
Kulke, Hermann, ed., The State in India (AD 1000 – AD 1700)  
Sharma, R.S and Shrimali, K.M eds., Comprehensive History of India, Vol. IV (A & B)  
Sharma, R.S. Indian Feudalism (circa 300 – 1200)  
Singh, Vipul Interpreting Medieval India, Volume-I, Early Medieval, Delhi Sultanate and Regions (circa 750 – 1550 ), 2009.

### **Suggested Readings :**

Basham, A.L., (ed.), A Cultural History of India  
Basham, A.L., The Wonder that was India  
Bose Mandakranta (ed.), Faces of Feminine in Ancient Medieval and Modern India, New York, 2000  
Chakravarti Ranabir, Exploring Early India upto Circa AD 1300  
Chakravarti, R(ed.), Trade in Early India, Delhi  
Champalakshmi, R, Trade, Ideology and Urbanisation :South India 300 BC – AD 1300, Delhi, 1966  
Chandra, S, History of Medieval India (800 -1700)  
Chattopadhyay, B.D, Aspects of Rural settlements and Rural Society in Early Medieval India  
Chattopadhyay, B.D, Science and Society in Ancient India, Calcutta, 1977  
Chattopadhyay, B.D, Studying Early India: Archaeology, Texts and Historical Issues , New Delhi, 2003  
Chaudhuri, K.N, Trade and Civilisation in the Indian Ocean : An Economic History from the Rise of Islam to 1750  
Gopal Lalanji, The Economic Life of Northern India ,Varanasi, 1965  
Habib, Irfan, Economic History of Medieval India: A Survey, New Delhi, 2001  
Habib, Irfan, Medieval India: The Study of a Civilisation ,New Delhi, 2008  
Habib, Md. And Nizami KA (eds), A Comprehensive History of India Vol. V  
Habibullah, A.B.M, The Foundation of Muslim Rule in India  
Jackson, Peter, The Delhi Sultanate: A Political & Military History, Cambridge, 1999  
Jha D.N (ed), The Feudal Order, New Delhi, 2000  
Kulke, H., The State in India (1000- 1700)  
Majumdar R.C and Dasgupta K.K.(eds), A Comprehensive History of India Vol.III  
Majumdar R.C. et al (eds), History and Culture of the Indian People Vol. IV and Vol. V  
Meister M.M & Dhaky MA, Indian Temple Architecture, Delhi, 1983  
Mukherjee B.N, Post-Gupta Coinages of Bengal, Calcutta, 1989  
Mukhia, H., The Feudalism Debate  
Rakaswami Vijaya, Walking Naked: Women, Society, Spirituality in South India (Simla, 1997)  
Ray H.C, Dynastic History of Northern India (New Delhi, 1973)  
Ray Nihar Ranjan et al ed., A Source Book of Indian Civilisation (Kolkata, 2000)  
Rizvi, S.A.A, The Wonder that was India, Vol. II  
Roy Kumkum (ed), Women in Early Indian Societies (New Delhi, 1999)  
Sastri , K.A. Nilkanta, A History of South India from Prehistoric Times to the Fall of Vijaynagar,  
Sastri K.A. Nilkantha, The Cholas (Madras, 1975 [reprint])  
Sastri, K.A. Nilkanta (ed), A Comprehensive History of India Vol. II  
Sharma R.S, Early Medieval Indian Society: A Study in Feudalisation, Delhi, 2001.  
Sharma R.S, Indian Feudalism, University of Calcutta, 1965.

Sharma R.S, Perspectives in the Social and Economic History of Early India, New Delhi, 1983.  
 Sharma, R.S, Early Medieval Indian Society: A Study in Feudalisation (Delhi, 2001)  
 Sharma, R.S, Indian Feudalism  
 Singh Upinder ed., Rethinking Early Medieval India : A Reader, 2011  
 Singh Upinder, A History of Ancient and Early Medieval India. Delhi, 2008.  
 Thapar Romila, Early India: From the Origins to AD 1300, London, 2002  
 Thapar, R; Early India  
 Veluthat, K; The Political Structure of Early Medieval South India  
 India and the Expansion of Islam 7-11 century, 1990  
 Yadava, B.N.S, Society & Culture in North India in the 12th century  
 Yazdani, G., (ed), The Early History of the Deccan

বাসাম এ এল, অতীতের উজ্জ্বল ভারত, (The Wonder That Was India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৫  
 মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, প্রথম মুদ্রণ নভেম্বর ১৯৯৭  
 ভট্টাচার্য, নরেন্দ্রনাথ, ধর্ম ও সংস্কৃতিক: প্রাচীন ভারতীয় প্রেক্ষাপট  
 চক্রবর্তী রণবীর, প্রাচীন ভারতের অর্থনৈতিক ইতিহাসের সন্ধান, আনন্দ পাবলিশার্স, কলকাতা ২০০২  
 চক্রবর্তী রণবীর, ভারত ইতিহাসের আদি পর্ব, ওরিয়েন্ট লংম্যান, কলকাতা, ২০০৭  
 সেন সমরেন্দ্রনাথ, বিপ্লবের ইতিহাস, শৈব্যা প্রকাশন, ১৯৯৬  
 শর্মা রামশরণ, ভারতের সামন্ততন্ত্র, (Indian Feudalism), কে পি বাগচি এন্ড কোং, কলকাতা  
 শর্মা রামশরণ, আদি মধ্যযুগের ভারতীয় সমাজ: সামন্ত-প্রক্রিয়া বিষয়ে এক সমীক্ষা (Early Medieval Indian Society: A Study in Feudalisation), ওরিয়েন্ট লংম্যান, ২০০৩

## **CC-6 : Rise of the Modern West - I**

- I.** Transition Debate on transition from feudalism to capitalism: problems and theories.
- II** a) The exploration of the new world: motives.  
b.) Portugese and Spanish voyages.
- III.** a) Renaissance : its social roots  
b.) Renaissance humanism  
c.) Rediscovery of classics  
d.) Italian renaissance and its impact on art, culture, education and political thought.  
e.) Its spread in Europe
- IV.** a) Reformation movements: Origins & courses  
b.) Martin Luther & Lutheranism  
c.) John Calvin & Calvinism  
d.) Radical reformation: Anabapists and Huguenots  
e.) English reformation and the role of the state  
f.) Counter Reformation
- V.** a) Economic developments  
b.) Shift of economic balance from the Mediterranean to the Atlantic  
c.) Commercial Revolution  
d.) Price Revolution  
e.) Agricultural Revolution and the Enclosure Movement
- VI.** a) Development of national monarchy  
b.) Emergence of European state system

### **Essential Readings**

- Butterfield H., The Origins of Modern Science. The Macmillan Company. 1959
- Cipolla Carlo M., Fontana Economic History of Europe, Vols. II and III Collins/ Fontana Books; 1978
- Cipolla Carlo M., Before the Industrial Revolution, European Society and Economy, 1000-1700, W. W. Norton & Company; 3rd edition 1994
- Coleman D.C (ed.), Revisions in Mercantilism Methuen & Co, 1969.
- Davis Ralph, The Rise of the Atlantic Economics. Cornell University Press, 1973
- Dobb Maurice, Studies in the Development of Capitalism, International Publishers, 1947
- Parker G., Europe in Crisis, 1598-1648 Ithaca, N.Y. : Cornell University Press. 1980
- Parry, J.H., The Age of Reconnaissance University of California Press, 1981
- Phukan Meenaxi, Rise of the Modern West: Social and Economic History of Early Modern Europe. Laxmi Publications 2013
- Polinsky.V, war and Society in Europe, 1618-48 Cambridge University Press, 2008
- Rabb Theodore K., The Struggle for Stability in Early Modern Europe. Oxford University Press, 1975
- Scammell V., The First Imperial Age: European Overseas expansion, 1400-1715. Routledge, 2003

Vries Jan de, Economy of Europe in an Age of Crisis 1600-1750. New York: Cambridge University Press, 1976

### **Suggested Readings :**

- Anderson M.S, Europe in the Eighteenth Century Holt, Rinehart and Winston, 1961  
Anderson, Perry, The lineages of the Absolutist States. Verso, 1979  
Aston, T.H and Philipin C.H.E (eds.), The Brenner Debate: Agrarian Class Structure and Economic Development in Pre-Industrial Europe, Cambridge University Press, 2005.  
Bernal J.D, Science in History Cambridge: The MIT Press, 1954  
Burke, Peter, The Renaissance . Humanities Press International, 1987  
Camerson, Euan (ed.), Early Modern Europe: An Oxford History, Oxford University Press 2001.  
Dunn Rechard S., The Age of Religious Wars, 1559-1715, W.W.Norton & Company, 2004  
Elton, G.R., Reformation Europe, 1517-1559 Wiley, 1999  
Gilmore, M.P., The World of Humanism, 1453-1517 New York, Harper 1952  
Hall, R., From Galileo to Newton Courier Corporation, 1981  
Hill, Christopher, A century of Revolutions. Psychology Press, 2002  
Hilton, Rodney, Transition from feudalism to Capitalism, Aakar Books, 2006  
Koenigsberger, H.G and Mosse, G.L., Europe in the Sixteenth Century. Longmans, 1961  
  
Lee, Stephen J., Aspects of European History, 1494-1789 Routledge, 1982  
Parker, G. and Smith, L.M., General Crisis of the Seventeenth Century. Boston : Routledge & Kegan Paul, 1978.  
Pennington, D.H., Seventeenth Century Europe. Longman, 1972  
Rabb, Theodore K., The Struggle for Stability in Early Modern Europe. Oxford University Press, 1975  
Rice, Eugene F. and Grafton, Anthony, The Foundations of Early Modern Europe, 1460-1559, W.W.Norton & Company, 2004.  
The Cambridge Economic History of Europe, Vol.I, IV Cambridge University Press 1944  
The New Cambridge Economic History of Europe, Vol.I, VII.

ত্রিপাঠী অমলেশ, ইতালির রেনেসাঁস বাঙালির সংস্কৃতি, আনন্দ পাবলিশার্স, কলকাতা ১৯৯৪  
দাশগুপ্ত অশীন, ভারত মহাসাগরে বাণিজ্য ও রাজনীতি ১৫০০-১৮০০, আনন্দ পাবলিশার্স, কলকাতা, ১৯৯৯  
বার্নাল জে ডি, ইতিহাসে বিজ্ঞান, (Science in History), আনন্দ পাবলিশার্স, কলকাতা, ২০০৫  
সেন সমরেন্দ্র, বিজ্ঞানের ইতিহাস, শৈব্যা প্রকাশন, কলকাতা, ১৯৯৬  
ভট্টাচার্য স্নেহাদ্রি, ইংলন্ডের ইতিহাস (টিউডর যুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা, ১৯৯৫  
চক্রবর্তী ভাস্কর, চক্রবর্তী সুভাষ রঞ্জন এবং চট্টোপাধ্যায় কিংশুক, ইউরোপে যুগান্তর, নবভারতী প্রকাশনী, কলকাতা, ২০০৫  
মুখার্জী রীলা, রূপান্তরিত ইউরোপ (১০০ - ১৮০০), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৪

## **CC-7 : HISTORY OF INDIA (c.1206-1526)**

### **I. Interpreting the Delhi Sultanate:**

Survey of sources: Persian tarikh tradition; vernacular histories; epigraphy

### **II. Sultanate Political Structures:**

- a. Foundation, expansion and consolidation of the Sultanate of Delhi; the Khaljis and the Tughluqs; Mongol threat and Timur's invasion; Rise and fall of Syed dynasty; The Lodis; Conquest of Bahlul and Sikandar; Ibrahim Lodi and the battle of Panipat;
- b. Theories of Kingship; Ruling elites; Sufis, Ulama and the political authority; imperial monuments and coinage
- c. Emergence of provincial dynasties: Bahamanis, Vijayanagar, Gujarat, Malwa, Jaunpur and Bengal
- d. Consolidation of regional identities: regional art, architecture and literature

### **III. Society and Economy:**

- a. Iqta and the revenue-free grants
- b. Agriculture production; technology
- c. Changes in rural society; revenue systems
- d. Monetization; market regulations; growth of urban centres; trade and commerce; Indian Ocean trade

### **IV. Religion and Culture:**

- a. Sufi silsilas: Chishtis and Suhrawardis; doctrines and practices; social roles.
- b. Bhakti movements and monotheistic traditions in South and North India; Women Bhaktas; Nathpanthis; Kabir, Nanak and the Sant tradition
- c. Sufi literature; Malfuzat; Premakhayans
- d. Architecture of the Delhi Sultanate

### **ESSENTIAL READINGS:**

Asher, Catherine and Talbot Cynthia, India before Europe, Cambridge University Press, March 2006.

Chandra Satish, Medieval India I, Har Anand Publication, New Delhi, July 2007.

Habib Mohammad and Nizami K.A., eds, Comprehensive History of India, Vol. V, The Delhi Sultanate, People's Publishing House, 2<sup>nd</sup> Edition, 1992.

Hasan Mohibul, Historians of Medieval India, Meenakshi Prakashan, 1968.

Jackson Peter, The Delhi Sultanate, Cambridge University Press, Revised Edition, 2003.

Schomer, Karine, and McLeod W.H., (Eds), The Sants Studies in A Devotional Tradition of India, Motilal Banarsidas, Delhi, 1987.

Nizami K.A., Some Aspects of Religion and Politics in India During the 13<sup>th</sup> Century, Aligarh, 1961.

Raychaudhuri Tapan and Habib Irfan, (Eds), Cambridge Economic History of India, Vol. I: c. 1200 – c. 1750, Cambridge University Press, Cambridge, 1982, 1987 (reprint).

Rizvi S.A.A., A History of Sufism in India, Vol. I, Munshiram Manoharlal, New Delhi, 1978.

### **Suggested Readings**

Ashraf K.M, Life and Conditions of the People of Hindusthan (1250 – 1550), Gyan Publishing House, 2000.

Eaton, R.M, The Rise of Islam and the Bengal Frontier (1204- 1760), University of California Press, July 1996.

Habib, Irfan, Medieval India: The Study of a Civilization, National Book Trust, July 2008.

Karashima, Noboru, South Indian History and Society: studies from inscriptions, A.D. 850 - 1800, Oxford, 1984.

Karashima, Noboru, Towards a New Formation: South Indian Society under Vijayanagara, Oxford University Press, 1992.

Kumar Sunil, The Emergence of the Sultanate of Delhi, Permanent Black, Delhi, First edition, 2010.

Stein, Burton, Peasant State and Society in Medieval South India, Oxford University Press, Oxford, February 1995.

Sherwani, H.K., Joshi, P.M. (eds), The History of Medieval Deccan (1295 - 1724), Government of Andhra Pradesh, Hyderabad, 1973-74.

Singh, Vipul, Interpreting Medieval India, Volume-I, Early Medieval, Delhi Sultanate and Regions (circa 750 – 1550 ), Macmillan Publishers India Ltd, 2009.

Tripathi, R.P; Some Aspects of Muslim Administration, The Indian Press Ltd., 1936.

Wink, Andre, Al Hind; The Making of the Indo Islamic World, Volume I – Early Medieval, Brill Academic Publishers, 2<sup>nd</sup> Edition, 1991.

রায় মিহিরকুমার, ভারতের ইতিহাস (তুরক-আফগান যুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, দ্বিতীয় মুদ্রণ, ফেব্রুয়ারী ১৯৯২

হাবিব ইরফান, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, (Economic History of Medieval India: A Survey), প্রগ্রেসিভ পাবলিশার্স

হাবিব ইরফান, মধ্যকালীন ভারত ১-৪ খন্ড (Medieval India)কে পি বাগচি এন্ড কোং, কলকাতা

হাবিবুল্লাহ এ বি এম, ভারতে মুসলিম শাসনের প্রতিষ্ঠা ১২০৬-১২৯০, (The Foundation of Muslim Rule in India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা

রায় অনিরুদ্ধ ও চট্টোপাধ্যায় রত্নাবলী, মধ্যযুগে বাংলার সমাজ ও সংস্কৃতি, কে পি বাগচি এন্ড কোং, কলকাতা ১৯৯২

রায় অনিরুদ্ধ, মধ্যযুগের ভারতের ইতিহাস: সুলতানি আমল, ওরিয়েন্ট লংম্যান, কলকাতা

করিম আব্দুল, বাংলার ইতিহাস: সুলতানি আমল, ঢাকা



## **CC-8 : Rise of the Modern West - II**

- I.** a) Printing Revolution.  
b) Revolution in war techniques
- II.** a.) Crisis in Europe in the 17<sup>th</sup> century  
b.) Its economic, social and political dimensions
- III.** a.) The English Revolution : major issues  
b.) Political and intellectual issues
- IV.** a.) Scientific Revolution  
b.) Emergence of scientific academies  
c.) Origins of Enlightenment
- Va.)** Mercantilism and European economics  
b.) Preludes to the Industrial Revolution
- VI. a.)** European Politics in the 17<sup>th</sup> & 18<sup>th</sup> Century  
b.) Parliamentary monarchy  
c.) patterns of Absolutism in Europe

### **Essential Readings**

Butterfield H., The Origins of Modern Science. The Macmillan Company. 1959  
Cipolla Carlo M., Fontana Economic History of Europe, Vols. II and III Collins/ Fontana Books; 1978  
Cipolla Carlo M., Before the Industrial Revolution, European Society and Economy, 1000-1700, W. W. Norton & Company; 3rd edition 1994  
Coleman D.C (ed.), Revisions in Mercantilism Methuen & Co, 1969.  
Davis Ralph, The Rise of the Atlantic Economics. Cornell University Press, 1973  
Dobb Maurice, Studies in the Development of Capitalism, International Publishers, 1947  
Parker G., Europe in Crisis, 1598-1648 Ithaca, N.Y. : Cornell University Press. 1980  
Parry, J.H., The Age of Reconnaissance University of California Press, 1981  
Phukan Meenaxi, Rise of the Modern West: Social and Economic History of Early Modern Europe. Laxmi Publications 2013  
Polinsky.V, war and Society in Europe, 1618-48 Cambridge University Press, 2008  
Rabb Theodore K., The Struggle for Stability in Early Modern Europe. Oxford University Press, 1975  
Scammell V., The First Imperial Age: European Overseas expansion, 1400-1715. Routledge, 2003  
Vries Jan de, Economy of Europe in an Age of Crisis 1600-1750. New York: Cambridge University Press, 1976

### **Suggested Readings :**

Anderson M.S, Europe in the Eighteenth Century Holt, Rinehart and Winston, 1961  
Anderson, Perry, The lineages of the Absolutist States. Verso, 1979  
Aston, T.H and Philipin C.H.E (eds.), The Brenner Debate: Agrarian Class Structure and Economic Development in Pre-Industrial Europe, Cambridge University Press, 2005.

Bernal J.D, Science in History Cambridge: The MIT Press, 1954  
 Burke, Peter, The Renaissance . Humanities Press International, 1987  
 Camerson, Euan (ed.), Early Modern Europe: An Oxford History, Oxford University Press 2001.  
 Dunn Rechard S., The Age of Religious Wars, 1559-1715, W.W.Norton & Company, 2004  
 Elton, G.R., Reformation Europe, 1517-1559 Wiley, 1999  
 Gilmore, M.P., The World of Humanism, 1453-1517 New York, Harper 1952  
 Hall, R., From Galileo to Newton Courier Corporation, 1981  
 Hill, Christopher, A century of Revolutions. Psychology Press, 2002  
 Hilton, Rodney, Transition from feudalism to Capitalism, Aakar Books, 2006  
 Koenigsberger, H.G and Mosse, G.L., Europe in the Sixteenth Century. Longmans, 1961

Lee, Stephen J., Aspects of European History, 1494-1789 Routledge, 1982  
 Parker, G. and Smith, L.M., General Crisis of the Seventeenth Century. Boston : Routledge & Kegan Paul, 1978.  
 Pennington, D.H., Seventeenth Century Europe. Longman, 1972  
 Rabb, Theodore K., The Struggle for Stability in Early Modern Europe. Oxford University Press, 1975  
 Rice, Eugene F. and Grafton, Anthony, The Foundations of Early Modern Europe, 1460-1559, W.W.Norton & Company, 2004.  
 The Cambridge Economic History of Europe, Vol.I, IV Cambridge University Press 1944  
 The New Cambridge Economic History of Europe, Vol.I, VII.

ত্রিপাঠী অমলেশ, ইতালির রেনেসাঁস বাঙালির সংস্কৃতি, আনন্দ পাবলিশার্স, কলকাতা ১৯৯৪  
 দাশগুপ্ত অশীন, ভারত মহাসাগরে বাণিজ্য ও রাজনীতি ১৫০০-১৮০০, আনন্দ পাবলিশার্স, কলকাতা, ১৯৯৯  
 বার্নাল জে ডি, ইতিহাসে বিজ্ঞান, (Science in History), আনন্দ পাবলিশার্স, কলকাতা, ২০০৫  
 সেন সমরেন্দ্র, বিজ্ঞানের ইতিহাস, শৈব্যা প্রকাশন, কলকাতা, ১৯৯৬  
 ভট্টাচার্য স্নেহাদ্রি, ইংলন্ডের ইতিহাস (টিউডর যুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা, ১৯৯৫  
 চক্রবর্তী ভাস্কর, চক্রবর্তী সুভাষ রঞ্জন এবং চট্টোপাধ্যায় কিংশুক, ইউরোপে যুগান্তর, নবভারতী প্রকাশনী, কলকাতা, ২০০৫  
 মুখার্জী রীলা, রূপান্তরিত ইউরোপ(১০০ - ১৮০০), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৪

## **CC-9 : History of India (c 1526 – 1605)**

### **I. Sources and Historiography:**

- a) Persian literary culture; translations; Vernacular literary traditions.
- b) Modern Interpretations

### **II. Establishment of Mughal rule:**

- a) India on the eve of Babur's Invasion
- b) Fire arms, military technology and warfare
- c) Humayun's struggle for empire
- d) Sher Shah and his administrative and revenue reforms

### **III. Consolidation of Mughal rule under Akbar:**

- a) Campaigns and conquests: tactics and technology
- b) Evolution of administrative institutions : Zabt, Masnab, Jagir, Madad-I-Maash
- c) Revolts and resistance

### **IV. Expansion and Integration:**

- a) Incorporation of Rajputs and other indigenous groups in Mughal nobility.
- b) North-West frontier, Gujarat and the Deccan
- c) Conquest of Bengal

### **V. Rural Society and Economy:**

- a) Land rights and revenue system; Zamindars and Peasants; rural tensions
- b) Extension of agriculture; agricultural production; crop patterns
- c) Trade routes and patterns of internal commerce; overseas trade; rise of Surat

### **VI. Political and religious ideals:**

- a) Inclusive political ideas: theory and practice
- b) Religious tolerance and Sulh-i-kul; Sufi mystical and intellectual interventions
- c) Pressure from the Ulama

### **Readings**

For readings – see the listing given in Paper -10

## **CC-10: History of India (c 1605 – 1750s)**

### **I. Sources: Persian and vernacular literary cultures, histories, memoirs and travelogues**

### **II. Political Culture under Jahangir and Shah Jahan**

- a) Extension of Mughal rule; changes in Mansab and Jagir systems; imperial culture
- b) Orthodoxy and syncretism – Naqshbandi Sufis, Miyan Mir, Dara Shukoh, Samrad

### **III. Mughal Empire under Aurangzeb**

- a) State and religion under Aurangzeb; issues in the war of succession; policies regarding religious groups and institutions
- b) Conquests and limits of expansion
- c) Beginning of the crisis: contemporary perceptions; agrarian and Jagir crises; revolts.

### **IV. Visual Culture: Paintings and Architecture**

### **V. Patterns of Regional Politics:**

- a) Rajput political culture and state formation
- b) Deccan kingdoms; emergence of the Marathas; Shiva; expansion under the Peshwas
- c) Mughal decline; emergence of successor states
- d) Interpreting eighteenth century India: recent debates

### **V. Trade and Commerce**

- a) Crafts and technologies; Monetary system
- b) Markets, transportation, urban centres
- c) Indian Ocean trade network

### **Essential Readings**

Alam Muzaffar and Subramaniam Sanjay , eds., The Mughal state, 1526-1750  
Ali Athar M., The Mughal Nobility under Aurangzeb  
Chandra Satish, Essays on Medieval Indian History  
Dasgupta Ashin, Indian Merchants and the Decline of Surat, 1700 – 1750  
Gordon Stewart, The Marathas 1600 – 1818  
Habib Irfan, Agrarian System of Mughal India, 1526 – 1701  
Koch Ebba, Mughal Art and Imperial Ideology  
Qanungo, K.R, Dara Shukoh  
Richards, J.F, The Mughal Empire  
Rizvi, S.A.A, Muslim Revivalist Movements in Northern India.

### **Suggested Readings**

Alam, Muzaffar-The Crisis of Empire in Mughal North India: Awadh and Punjab-1707-1748.  
Alavi, Seema (ed.), The Eighteenth Century in India  
Ali, M. Athar, Mughal India: Studies in Polity, Ideas, society and Culture.  
Arasaratnam S., Maritime India in the Seventeenth Century  
Asher Catherine, Architecture of Mughal India  
Bandyopadhyaya S, From Plassey to Partition  
Barnett, R.B, North India between Empires: Awadh, the Mughals and the British.  
Bashir, Ahmed, Akbar, the Mughal Emperor.  
Bayly, Susan, Caste, Society and Politics in India from the 18th century to the modern age.  
Bayly, C.A., Indian Society and the Making of the British Empire;  
Beach Milo, Mughal and Rajpur Paintings

Bernier, F, Travels in Mughal India.  
 Chandra Satish, Parties and Politics at the Mughal Court  
 Chandra, Satish, A History of Medieval India (Part II)  
 Chandra, Satish, Historiography, Religion and State in Medieval India  
 Chandra, Satish, Mughal Religious Policies, the Rajputs and the Deccan.  
 Chandra, Satish, The 18th century in India: Its economy and the Role of the Marathas, the jats and the Sikhs and the Afghans and Supplement (K.P.Bagchi)  
 Chaudhuri, K.N., Trade & Civilization: An Economic History from the Rise of Islam to 1750.  
 Eaton, R.M., The Rise of Islam and the Bengal Frontier 1204-1760;  
 Eaton, R.M., The Sufis of Bijapur  
 Fukuzawa, H., The Medieval Deccan: Peasants, Social systems and States 16th to 18th centuries.  
 Gordon S., The Marathas 1600-1818  
 Grewal J.S., The Sikhs of the Punjab  
 Habib Irfan (ed.), Medieval India  
 Habib Irfan (ed), Resistance and Modernization under Haider Ali and Tipu Sultan  
 Hasan S., Nurul, Thoughts on Agrarian Relations in Mughal India  
 Hasan S. Nurul, Religion, State, and Society in Medieval India  
 Husain Iqbal, Ruhela Chieftancies in 18th Century India  
 Kulke, H. (ed.), The State in India 1000-1700.  
 Malik, Z.U, The Reign of Muhammad Shah  
 Marshall P J., (Edited) , The Eighteenth century in Indian history: Evolution or revolution  
 Marshall P J., East Indian Fortunes: the British in Bengal in the 18th Cent,  
 Mukhia Harbans, The Mughals of India  
 Nizami K.A., (ed.) Politics and society during the early Medieval Period : The collected Works of Prof. Md. Habib (2 vols.)  
 Raychoudhuri T.K. & Habib I. (eds.)-The Cambridge Economic History of India Vol.1  
 Richards J.F., The Mughal Empire  
 Richards, J.F, Mughal Administration in Golconda  
 Rizvi S.A.A., A History of Sufism in India  
 Rizvi S.A.A., The Wonder that was India (vol.2);  
 Sarkar, Sir J.N., History of Aurangzeb 5 vols.  
 Sarkar, Sir J.N., The Fall of the Mughal Empire, 4 vols.  
 Siddiqi. N.A., Land Revenue Administration Under the Mughals (1700- 1750)  
 Stein, Burton, Eighteenth Century in India: Another view (Studies in History, No.I, 1989)  
 Stein, Burton, Peasant, State and Society in Medieval South India (Oxford University Press)  
 Streusand D.F., The Formation of the Mughal Empire  
 Tripathi R.P., Some Aspects of Muslim Administration  
 Tripathi R.P., The Rise & Fall of the Mughal Empire  
 Wink, Andre, Land and Sovereignty in India: Agrarian society and politics under the eighteenth century Maratha Swarajya.

আলি এম আখার, আওরঙ্গজেবের সময়ে মুঘল অভিজাত শ্রেণী (The Mughal Nobility under Aurangzeb) কে পি বাগচি এন্ড কোং, কলকাতা  
 বন্দ্যোপাধ্যায় শেখর, অষ্টাদশ শতকের মুঘল সংকট ও আধুনিক ইতিহাস চিন্তা, কলকাতা, ১৯৮৩  
 ভদ্র গৌতম, মুঘল যুগে কৃষি অর্থনীতি ও কৃষক বিদ্রোহ, সুবর্ণরেখা, কলকাতা, ১৯৮৩  
 চন্দ্র সতীশ, মুঘল দরবারে দল ও রাজনীতি, (Parties and politics at the Mughal Court 1707-1740) কে পি বাগচি এন্ড কোং, কলকাতা

চৌধুরী বিনয় ভূষণ ও অন্যান্যরা, বাংলার কৃষি সমাজের গঠন, কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মধ্যকালীন ভারত, খন্ড ১-৪, কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মুঘল সাম্রাজ্য ও তার পতন- একটি সমীক্ষা, পশ্চিমবঙ্গ ইতিহাস সংসদ, ২০০০

হাবিব ইরফান, মুঘল ভারতের কৃষি ব্যবস্থা, (The Agrarian System of Mughal India (1556-1707)), কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, (Economic History of Medieval India: A Survey), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৯

হাবিব ইরফান, ভারতের ইতিহাস প্রসঙ্গ: মার্কসীয় চেতনার আলোকে (Essays in Indian History: Towards a Marxist Perception), ন্যাশনাল বুক এজেন্সি, কলকাতা, ১৯৯৯

রায় অনিরুদ্ধ, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, ১২০০-১৭৫৭, প্রগ্রেসিভ পাবলিশার্স, কলকাতা

রায় অনিরুদ্ধ, মুঘল যুগের অর্থনৈতিক ইতিহাস, কে পি বাগচি এন্ড কোং, কলকাতা

সরকার জগদীশ নারায়ণ, মুঘল অর্থনীতি: সংগঠন এবং কার্যক্রম, (Mughal Economy : Organisation and Working) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা ১৯৯১

সিদ্দিকী নোমান আহমেদ, মোঘল রাজত্ব ভূমিরাজস্ব পরিচালন ব্যবস্থা (১৭০০ - ১৭৫০) (Land Administration Under the Mughals (1700 -1750) পার্ল পাবলিশার্স, কলকাতা, ১৯৮০

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (২য় খন্ড)

(মুঘল ও ব্রিটিশ ভারত, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা ১৯৯৮

চট্টোপাধ্যায় রত্নাবলী, মুঘল যুগের দরবারি চিত্রকলা, থীমা, কলকাতা

## **CC-11: History of Modern Europe (c.1780 – 1939)**

### **I. The French Revolution and its European repercussions:**

- a) Crisis of *ancien regime*
- b) Intellectual currents
- c) Social classes and emerging gender relations.
- d) Phases of the French Revolution
- e) Art and Culture of French Revolution
- f) Napoleonic consolidation – reform and empire.

### **II. Restoration and Revolution: c.1815 - 1848**

- a) Forces of conservatism and restoration of old hierarchies.
- b) Social, Political and intellectual currents.
- c) Revolutionary and Radical movements, 1830 -1848

### **III. Capitalist Industrialization and Social and Economic Transformation (Late 18<sup>th</sup> century to AD 1914)**

- a) Process of capitalist development in industry and agriculture: case studies of Britain, France, the German States and Russia.
- b) Evolution and Differentiation of social classes : Bourgeoisie, proletariat, Land Owning classes and peasantry.
- c) Changing trends in demography and urban patterns
- d) Family, gender and process of industrialization.

### **IV. Varieties of Nationalism and the Remaking of States in the 19<sup>th</sup> and 20<sup>th</sup> centuries.**

- a) Intellectual currents, popular movements and the formation of National identities in Germany, Italy, Ireland and the Balkans.
- b) Specifications of economic development, political and administrative Reorganization – Italy; Germany.
- c) Revolutions of 1905; the Bolshevik Revolution of 1917
- d) Programme of Socialist Construction and the Soviet Union during the inter-war period 1918-39.

### **V. Imperialism, War and Crisis: c.1880 - 1918**

- a) Theories and mechanisms of imperialism;
- b) Growth of Militarism;
- c) Power blocks and alliances;
- d) Expansion of European empires
- e) War of 1914 - 1918

### **VI. Europe between Two World Wars:**

- a) Post War Europe: A Diplomatic History
- b) The Great Depression
- c) Rise of Fascism in Italy and Nazism in Germany
- d) The Spanish Civil War
- e) Policy of Appeasement and Russo German Non-Aggression Pact
- f) Origins and Course of the Second World War

## **Essential Readings**

Brennan Gerald, The Spanish Labyrinth: An Account of the Social and Political Background of the Civil War.  
Cipolla C.M, Fontana Economic History of Europe, Volume III: The Industrial Revolution  
Davies Norman, Europe  
Evans J., The Foundations of a Modern State in 19<sup>th</sup> Century Europe  
Hamerow T.S, Restoration, Revolution and Reaction : Economics and Politics in Germany [1815 – 1871]  
Hobsbawm, E.J, The Age of Revolution  
Hunt Lynn, Politics, Culture and Class in the French Revolution  
Joll James, Europe Since 1870  
Landes David; Prometheus Unbound  
Lefebvre George, Coming of the French Revolution  
Lichteim, A Short History of Socialism  
Mathias Peter, First Industrial Revolution  
Nove, Alec; An Economic History of the USSR  
Porter Andrew, European Imperialism, 1876 – 1914  
Wood Anthony, History of Europe, 1815 – 1960  
Woolf Stuart, History of Italy, 1700 to 1860

## **Suggested Readings**

Barracclough G., An Introduction to Contemporary History  
Blanning, T.C.W, The French Revolution: Class War or Culture Clash  
Braudel Fernand, History and the Social Science in M. Aymard and Mukhia H. ed., French Studies in History, Vol.I (1989)  
Briggs Asa and Clavin Patricia, Modern Europe: 1789 – Present  
Calleo D, German Problem Reconsidered  
Carr E.H, International Relations between the Two World Wars  
Carr E.H, The Bolshevik Revolution (Vol. I, II, III)  
Cobban, Alfred, History of Modern France, Volume I – III  
Dobb Maurice, Soviet Economic Development since 1917  
Doyle, William, Origins of the French Revolution  
Droz. Jacques, Europe Between Revolutions  
Ellis G., The Napoleonic Empire  
Evans, J., The Foundations of a Modern State in 19<sup>th</sup> Century Europe  
Hamerow, T.S, Restoration, Revolution and Reaction : Economics and Politics in Germany (1815 – 1871)  
Hanham H.J, Nineteenth Century Constitution, 1815-1914  
Hobsbawm, E.J, Age of Capital  
Hobsbawm, E.J, Age of Empire  
Hobsbawm, E.J, Age of Revolution  
Hobsbawm, E.J, Nation and Nationalism  
Hufton, Olwen, Europe: Privilege and Protest  
Jelavich Charles and Jelavich Barbara, Establishment of the Balkan National States, 1840 – 1920  
Joll James, Europe Since 1870  
Joll James, Origins of the First World War, 1989  
Landes Jaon B., Women and the Public Sphere in the Age of the French Revolution  
Lee Stephen J., Aspects of European History 1789 – 1980  
Licas Colin, The French Revolution and the Making of Modern Political Culture



Lowenthal David, The Past is a Foreign Country  
 Lyon Martin, Napoleon Bonaparte & the Legacy of the French Revolution  
 Mansergh Nicholas, The Irish Question, 1840 – 1921  
 Morgan K.O, Oxford Illustrated History of Britain, Volume 3 (1789-1983)  
 Morgan R.P, German Social Democracy and the First International  
 Perrot M. and Duby G. [eds.], A History of Women in the West, Volumes 4 and 5  
 Renton Dave, Fascism: Theory and Practice  
 Riasanovsky N.V, A History of Russia  
 Robert J.M, Europe 1880 to 1985  
 Roth J.J (ed), World War I: A Turning Point in Modern History  
 Rude, George, Revolutionary Europe  
 Schamma Simon , Citizens: A chronicle of the French Revolution  
 Soboul Albert, History of the French Revolution (in two Volumes)  
 Stone Lawrence, History and the Social Sciences in the twentieth Century, The Past and the Present, 1981  
 Taylor A.J.P, Europe: Grandeur and Decline  
 Taylor A.J.P, The Course of German History  
 Taylor A.J.P, The Origin of the Second World War  
 Taylor, A.J.P, The Struggle for Mastery in Europe  
 Thompson Dorothy; Chartists: Popular Politics in the Industrial Revolution  
 Thompson, E.P, Making of the English Working Class  
 Thomson, David, Europe Since Napoleon  
 Vovelle Michael, Fall of the French Monarchy, 1984.  
 Watson H. Seton, The Russian Empire  
 Watson, Seton, The Russian Empire  
 Williams Raymond, Culture and Society

গৌতম চট্টোপাধ্যায় সম্পাদিত: দু'শো বছরের আলোকে, পশ্চিমবঙ্গ ইতিহাস সংসদ, ১৯৮৯  
 চক্রবর্তী সুভাষ রঞ্জন, ফরাসী বিপ্লব, পশ্চিমবঙ্গ পুস্তক পর্ষদ, কলকাতা  
 চক্রবর্তী সুভাষ রঞ্জন, ইউরোপের ইতিহাস, পশ্চিমবঙ্গ পুস্তক পর্ষদ, কলকাতা, ১৯৮৬  
 জ্যাকসন টি এ, ফরাসী বিপ্লব - দশ দিগন্ত, কে পি বাগচি এন্ড কোং, কলকাতা ২০০৪  
 টমসন ডেভিড, বিশ্ব ইতিহাসের প্রেক্ষাপটে ইউরোপ, ১ম খন্ড (১৭৮৯-১৮৫০), ২য় খন্ড  
 (১৮৫১-১৯১৪) প্রগ্রেসিভ পাবলিশার্স, কলকাতা ২০০২ ও ২০০৩  
 রায় সিদ্ধার্থ গুহ, আধুনিক ইউরোপ: ফরাসী বিপ্লব থেকে দ্বিতীয় বিশ্বযুদ্ধ, প্রগতিশীল প্রকাশক,  
 কলকাতা, ২০১৩

## **CC-12: History of India (c 1750s – 1857)**

### **I. India in the mid 18<sup>th</sup> Century; Society, Economy, Polity**

### **II. Expansion and Consolidation of Colonial Power :**

- a) Mercantilism, foreign trade and early forms of exactions from Bengal
- b) Dynamics of expansion, with special reference to Bengal, Mysore, Western India, Awadh, Punjab and Sindh.

### **III. Colonial State and Ideology:**

- a) Arms of the colonial state : army, police, law
- b) Ideologies of the Raj and racial attitudes.
- c) Education : indigenous and modern.

### **IV. Rural Economy and Society:**

- a) Land revenue systems and forest policy
- b) Commercialization and indebtedness
- c) Rural society : change and continuity.
- d) Famines
- e) Pastoral economy and shifting cultivation.

### **V. Trade and Industry**

- a) De industrialization
- b) Trade and fiscal policy
- c) Drain of Wealth
- d) Growth of modern industry

### **VI. Popular Resistance:**

- a) Santhal uprising (1857); Indigo rebellion (1860); Pabna Agrarian Leagues (1873); Deccan riots (1875)
- b) Uprising of 1857

### **Essential Readings**

Bayly C.A, Indian Society and the Making of the British Empire, New Cambridge History of India.

Bhattacharya, Sabyasachi.ed., Rethinking 1857, Delhi, Orient Longman, 2007

Chakravarty Suhash, The Raj Syndrome: A study in Imperial Perceptions, 1989

Chandra Bipan, Rise and Growth of Economic Nationalism in India

Choudhury, Sushil, Prelude to Empire Plassey Revolution of 1757, Delhi: Manohar, 2000

Cohn, B., Colonialism and its Forms of Knowledge, Princeton, New Jersey, Princeton University Press, 2001

Dirks, Nicholas B., Castes of Mind, Princeton, New Jersey, Princeton University Press, 1996

Ghosh Suresh Chandra, The History of Education in Modern India 1757-2012, Delhi, Orient Blackswan, 4<sup>th</sup> Edition, 2013

Grewal, J.S, The Sikhs of the Punjab, New Cambridge History of India

Guha Ranajit, ed., A Subaltern Studies Reader

Guha, Ranajit, Elementary Aspects of Peasant Insurgency in Colonial India, New Delhi, Oxford University Press, 1983

Kumar Dharma and Raychaudhuri Tapan, eds., The Cambridge Economic History of India, Vol.II

Majumdar, R.C,ed., History and Culture of Indian People, Vols. IX and X, British Paramountcy and Indian Renaissance.  
Marshall, P.J, Bengal: The British Bridgehead, New Cambridge History of India  
Metcalf, Thomas, Ideologies of the Raj, Cambridge, Cambridge University Press, 1995  
Ray, Rajat K., ed., Entrepreneurship and Industry in India, 1800-1947, Oxford In India Readings.  
Sinha, N.K.ed, The history of Bengal 1757-1905, Calcutta, Calcutta University Press, 1967  
Stokes, Eric, English Utilitarians and India  
Stokes, Eric, The Peasant Armed: The Indian Rebellion of 1857, ed. Bayly, C.A, New Delhi, Oxford University Press, 1986

### **Suggested Readings**

Arnold David and Guha Ramchandra , eds., Nature, Culture and Imperialism  
Bagchi, Amiya, Private Investment in India  
Chandra Bipan, Panikkar, K.K, Mukherjee Mridula, Mahajan Sucheta and Mukherjee Aditya, India's Struggles for Independence.  
Dadabhai Naroji, Poverty and Un-British Rule in India.  
Desai, A.R, Peasant Struggles in India  
Dutt, R.P, India today  
Fisher, M.J, ed., Politics of Annexation (Oxford in India Readings).  
Guha Ranajit, Elementary Aspects of Peasant Insurgency in Colonial India(1983)  
Krishnamurti, J., Women in Colonial India.

বন্দ্যোপাধ্যায় শেখর, অষ্টাদশ শতকের মুঘল সংকট ও আধুনিক ইতিহাস চিন্তা, কলকাতা, ১৯৮৩  
বন্দ্যোপাধ্যায় শেখর, পলাশী থেকে পার্টিশন: আধুনিক ভারতের ইতিহাস, ওরিয়েন্ট লংম্যান, ২০০৪  
ভট্টাচার্য্য সব্যসাচী, ঔপনিবেশিক ভারতের অর্থনীতি, কলকাতা, ২০০০  
সুনীল সেন, ভারতে কৃষিকার্য ১৭৯৩-১৯৪৭, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৫  
চৌধুরী বিনয় ভূষণ, ঔপনিবেশিক আমলে বাংলার কৃষি ইতিহাস, কে পি বাগচি এন্ড কোং, কলকাতা  
ইসলাম, সিরাজুল, বাংলার ইতিহাস ঔপনিবেশিক শাসনকার্যামো, চয়নিকা, ঢাকা, ২০০২  
চক্রবর্তী মৃণাল, সিরাজ-উদ্-দৌলা, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা, ১৯৮১  
রায় রজতকান্ত, পলাশীর ষড়যন্ত্র ও সেকালের সমাজ, আনন্দ পাবলিশার্স, কলকাতা  
চৌধুরী সুশীল, পলাশীর অজানা কাহিনী, আনন্দ পাবলিশার্স, কলকাতা

## **CC-13 : History of India (c. 1857 – 1964)**

### **I. Cultural changes and Social and Religious Reform Movements:**

- a) Growth of a new intelligentsia – the Press and Public Opinion
- b) Reform and Revival : Brahmo Samaj, Prarthna Samaj, and Ramakrishna and Vivekananda, Arya Samaj, Wahabi, Deoband, Aligarh and Singh Sabha Movements.
- c) Debates around gender
- d) Making of religious and linguistic identities
- e) Caste : Sanskritising and anti Brahminical trends

### **II. Nationalism : Trends up to 1919**

- a) Formation of early political organizations
- b) Moderates and extremists
- c) Swadeshi movement
- d) Revolutionaries

### **III. Gandhian nationalism after 1919 : Ideas and Movements:**

- a) Mahatma Gandhi : his Perspectives and Methods
- b) i) Impact of the First World War
- ii) Rowlatt Satyagraha and Jalianwala Bagh
- iii) Non-Cooperative and Civil Disobedience
- iv) Provincial Autonomy, Quit India and INA
- c) Left wing movements
- d) Princely India : States people movements

### **IV. Nationalism and Social Groups : Interfaces:**

- a) Landlords, Professionals and Middle Classes
- b) Peasants
- c) Tribals
- d) Labours
- e) Dalits
- f) Women
- g) Business groups

### **V. Communalism : Ideologies and practices, RSS , Hindu Maha Sabha, Muslim League**

### **VI. Independence and Partition**

- a) Negotiations for independence and partition
- b) Popular movements
- c) Partition riots

### **VII. Emergence of a New State:**

- a) Making of the Constitution
- b) Integration of princely states
- c) Land reform and beginnings of planning
- d) The Nehru years.

## Essential Readings

Bandyopadhyay Sekhar, From Plassey to Partition and After  
Brass Paul, The Politics of India since Independence, OUP, 1990  
Brown Judith, Gandhi's rise to power, 1915-22  
Brown Judith, Gandhi and Civil Disobedience  
Brown Judith, Nehru : A political Life. New Delhi: Oxford University Press 2003  
Chandra Bipan, et Al., India's Struggle for Independence  
Chandra Bipan, et Al. India after Independence  
Chandra Bipan, Communalism in Modern India (2<sup>nd</sup> Ed., 1987)  
Chandra Bipan, Nationalism and Colonialism in Modern India ( 1979)  
Chandra Bipan, Rise and Growth of Economic Nationalism in India  
Chatterjee Joya, Bengal Divided : Hindu Communalism and Partition 1932 – 1947, O.U.P, 1994  
Desai, A.R, Social Background to Indian Nationalism  
Desai, A.R Peasant Struggles in India  
Dutta, R.P, India Today  
Gallagher J., Johnson, G. Seal, A Locality, Province and Nation  
Hardy Peter, Muslims of British India  
Heimsath Charles, Indian Nationalism and Hindu Social Reform  
Hassan Mushirul ed., India's Partition, Oxford in India Readings  
Hutchins F., Illusion of Permanence  
Kumar Ravinder, Social History of Modern India  
Krishnamurty J., Women in Colonial India  
Low D.A (ed.) Congress and the Raj  
McLane J.R, Indian Nationalism and Early Congress  
Pandey Gyanendra, The Construction of Communalism in Colonial North India  
Sarkar Sumit , Swadeshi Movement in Bengal  
Sarkar Sumit, Modern India, 1885-1947  
Sarkar Susobhan, Notes on Bengal Renaissance  
Seal Anil, Emergence of Indian Nationalism  
Sen S.N, An Advanced History of Modern India, Kolkata, 2010  
Stokes Eric, Peasants and the Raj : Studies in Agrarian Society and Peasant Rebellion in Colonial India  
Tripathi Amal, The Extremist Challenge  
Zelliot Eleanor, From Untouchables to Dalit : Essays on the Ambedkar Movement

বন্দ্যোপাধ্যায় শেখর, পলাশি থেকে পার্টিশান ও তারপর (From Plassey to Partition and after),  
ওরিয়েন্ট লংম্যান  
চন্দ্র বিপান এবং অন্যান্য, ভারতের স্বাধীনতা সংগ্রাম, (India's Struggle for Independence) কে পি  
বাগচি এন্ড কোং, কলকাতা  
চন্দ্র বিপান এবং অন্যান্য, ভারতবর্ষ - স্বাধীনতার পরে, (India after Independence), আনন্দ  
পাবলিশার্স, কলকাতা  
দেশাই এ আর, ভারতীয় জাতীয়তাবাদের সামাজিক পটভূমি, (Social Background to Indian  
Nationalism) কে পি বাগচি এন্ড কোং, কলকাতা  
জয়া চ্যাটার্জী, বাংলা ভাগ হল: হিন্দু সাম্প্রদায়িকতা ও দেশ-বিভাগ, ১৯৩২-১৯৪৭  
(Bengal Divided : Hindu Communalism and Partition 1932 – 1947) এল আলমা পাবলিকেশনস,  
কলকাতা, ২০০৩

দত্ত রজনী পাম, আজিকার ভারত (India Today)

সরকার সুশোভন, বাংলার রেনেসাঁস, (Notes on Bengal Renaissance), দীপায়ন, কলকাতা  
ত্রিপাঠী অমলেশ, ভারতের মুক্তিসংগ্রামে চরমপন্থী পর্ব, (The Extremist Challenge) আনন্দ  
পাবলিশার্স, কলকাতা

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস(২য় খন্ড) (মুঘল ও ব্রিটিশ ভারত) পশ্চিমবঙ্গ রাজ্য  
পুস্তক পর্ষদ, ৪র্থ মুদ্রণ, ১৯৯৮

সুর নিখিল, ভারতীয় জাতীয়তাবাদী আন্দোলনের পটভূমি, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৯  
চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৮৫৮-১৯২০) (১ম খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৮

চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৯২০-১৯৪৭) (২য় খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৯

সেন সুনীল, ভারতে কৃষিসম্পর্ক(১৭৯৩-১৯৪৭) (Agrarian Relations in India (1793-1847)  
পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৫

ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস, আনন্দ পাবলিশার্স, কলকাতা  
চন্দ্র বিপান, আধুনিক ভারতঃ ঔপনিবেশিকতাবাদ ও জাতীয়তাবাদ (Nationalism and Colonialism),  
কে পি বাগচি এন্ড কোং, কলকাতা

## **CC-14 : History of World Politics: 1945-1994**

- I. The Cold War: Weakening of European balance of power: Origins of The Cold War: Yalta and Potsdam Conferences; End of wartime alliance.
- II. The USA in World Politics: Truman Doctrine, Marshall Plan, NATO.
- III. The USSR in World Politics: Molotov Plan, COMECON and Cominform; Sovietisation of Eastern Europe; Berlin Blockade; Warsaw Pact.
- IV. Manifestation of Cold War: The Korean Crisis- End of French Colonial rule in Indo-China and the Vietnam War – Cuban Crisis.
- V. De-Stalinisation; Thaw in Cold War; Détente and road to the ending of Cold War.
- VI. Disintegration and Decline of the Soviet Union – Glasnost and Perestroika – Crisis of Socialist regimes in other East European Countries: Poland, Germany, Czechoslovakia, Hungary – Response of the USA; Rise of a Unipolar World system, Globalization.
- VII. Emergence of the People's Republic of China – China and the USA – Sino-Soviet rift.
- VIII. West Asian Crisis – Palestine and Western Powers – Birth of Israel – Arab-Israel Conflict –The Suez Crisis (1956); Origin and Formation of PLO; Yom Kippur War(1973) ; Camp David Accord(1979); Oslo Peace Accord(1993).
- IX. Decolonization: The African Case Study: Ghana, Algeria, Congo, Kenya.
- X. Protest Politics: Civil Rights Movement, Anti-Apartheid Movement and the end of Apartheid (1994), Second Wave Feminist Movement.

### **Selected Readings**

Asa Briggs and Patricia Clavin, *Modern Europe 1789 – Present*, Delhi, 2009.

Peter Calvocoressi, *World Politics 1945 – 2000*, New Delhi, 2006.

Edward Crankshaw, *The New Cold War : Moscow vs. Peking*, Penguin Books, 1963.

Issac Dentscher, *Russia, China, and the West*, Penguin Books, 1949.

Eric Hobsbawm, *The Age of Extremes : The Short Twentieth Century*, London, 1994.

Eric Hobsbawm, *Globalisation, Democracy and Terrorism*, London, 2007.

Henry Heller, *The Cold War and the New Imperialism*, New York, 2007.

Wayne C. Mcwilliam and Harry Piotrowsky, *The World since 1945: A History of International Relations*, New Delhi, 2018.

Andreas Wenger and Doron Zimmermann, *International Relations From the Cold War to the Globalized World*, New Delhi, 2010.

John Merriman, *A History of Modern Europe From Renaissance to the Present*, London, 1996.

Norman Lowe, Mastering Modern World History, Hampshire, Palgrave Macmillan 2013.

Kathleen A. Laughlin and Jacqueline L. Castledine, Breaking the wave : women, their organizations, and feminism, 1945-1985 New York : Routledge, 2011.

Wini Breines, Trouble Between Us: an Uneasy History of White and Black Women in the Feminist Movement New York : Oxford University Press, 2006.

Gail Collins, When Everything Changed: the Amazing Journey of American Women from 1960 to the Present, New York : Little, Brown and Co., 2009.

P. Eric Louw , The Rise, Fall, and Legacy of Apartheid, Praeger, 2004

Ryan M. Irwin Gordian Knot: Apartheid and the Unmaking of the Liberal World Order, Oxford University Press, 2012

Mark Newman , The Civil Rights Movement , Edinburgh University Press, 2004

চক্রবর্তী রাধারমণ ও চক্রবর্তী সুকল্যা, সমসাময়িক আন্তর্জাতিক সম্পর্ক , প্রগ্রেসিভ পাবলিশার্স, কলিকাতা।

চট্টোপাধ্যায় প্রণবকুমার, আন্তর্জাতিক সম্পর্কের ইতিহাস, কলিকাতা ১৯৯৪।



# Discipline Specific Elective: DSE TH&TU

## Paper 1 DSE-A-1 SEM -5: History of Bengal (c.1757-1905)

- I. Political history of Bengal under the Nawabs: Rise of British power in Bengal from the battle of Plassey to Buxar.
- II. Administrative history: 1765--1833
- III. Colonial economy: - Agriculture, trade and industry.
- IV. Cultural changes and Social and Religious Reform Movements: Christian missionaries- The advent of printing and its implications, education: Indigenous and western - Hindu and Muslim religious revivalist movements.
- V. Social Reforms and the women's question.
- VI. Protest movements and insurgencies against the Raj: The Fakir and Sannyasi revolts, Indigo Revolt (1859-1860), Pabna Peasant Uprisings (1873-76)
- VII. Partition of Bengal 1905: Curzon and the administrative blueprint.

### Select Readings:

Bandyopadhyay, Sekhar. From Plassey to Partition: A History of Modern India. New Delhi: Orient Blackswan , 2004

Banerjee Dube, Ishita. A History of Modern India. Cambridge University Press, 2015

Bayly C.A., Indian Society and the Making of the British Empire Cambridge University Press, 1995

Choudhary Sushil, Prelude to Empire: Plassey Revolution of 1757. Delhi: Manohar, 2000.

Ghosh, Suresh Chandra. The History of Education in Modern India, 1757 - 2012 Delhi: Orient Blackswan , Edition4, 2013

Guha, Ranajit . Elementary Aspects of Peasant Insurgency in Colonial India. New Delhi: Oxford University Press, 1983.

Islam, Sirajul ed. History of Bangladesh 1704-1971 (Vols. I,II & III) Dhaka: Asiatic Society of Bangladesh, 1997

Khan Abdul Majed, Muhammad Reza Khan and the Transition in Bengal . Cambridge University Press, 1969

Kopf David, British Orientalism and the Bengal Renaissance: The Dynamics of Indian Modernization, 1773-1835 University of California Press, 1969

Kopf David, The Brahmo Samaj and the Shaping of the Modern Indian Mind. Atlantic Publishers 1979.

Marshall P.J, Bengal the British Bridgehead Bengal: The British Bridgehead: Eastern India 1740-1828. Cambridge University Press. 1987

Metcalfe, Thomas, Ideologies of the Raj. Cambridge: Cambridge University Press, 1995.

Sinha, N.K. ed. The history of Bengal 1757- 1905 Calcutta: Calcutta University Press, 1967

বন্দ্যোপাধ্যায় শেখর, পলাশি থেকে পার্টিশান, ওরিয়েন্ট লংম্যান  
চন্দ্র বিপান এবং অন্যান্য, ভারতের স্বাধীনতা সংগ্রাম, কে পি বাগচি এন্ড কোং, কলকাতা  
চন্দ্র বিপান এবং অন্যান্য, ভারতবর্ষ – স্বাধীনতার পরে, , আনন্দ পাবলিশার্স, কলকাতা  
চন্দ্র বিপান, আধুনিক ভারত: ঔপনিবেশিকতাবাদ ও জাতীয়তাবাদ, কে পি বাগচি এন্ড কোং,  
কলকাতা

চ্যাটার্জী জয়া, বাংলা ভাগ হোল: হিন্দু সাম্প্রদায়িকতা ও দেশ-বিভাগ, ১৯৩২-১৯৪৭। এল আলমা  
পাবলিকেশনস, কলকাতা, ২০০৩

দেশাই এ আর, ভারতীয় জাতীয়তাবাদের সামাজিক পটভূমি, কে পি বাগচি এন্ড কোং, কলকাতা

দত্ত রজনী পাম, আজিকার ভারত সরকার সুশোভন, বাংলার রেনেসাঁস, দীপায়ন, কলকাতা  
ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস ১৮৮৫-১৯৪৭। কলকাতা আনন্দ  
পাবলিশার্স, ২০১২।

ত্রিপাঠী অমলেশ, ভারতের মুক্তিসংগ্রামে চরমপন্থী পর্ব, আনন্দ পাবলিশার্স, কলকাতা  
মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস(২য় খন্ড) (মুঘল ও ব্রিটিশ ভারত) পশ্চিমবঙ্গ রাজ্য  
পুস্তক পর্ষদ, ৪র্থ মুদ্রণ, ১৯৯৮

সুর নিখিল, ভারতীয় জাতীয়তাবাদী আন্দোলনের পটভূমি, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৯  
চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৮৫৮-১৯২০) (১ম খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৮

চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৯২০-১৯৪৭) (২য় খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৯

সেন সুনীল, ভারতে কৃষিসম্পর্ক(১৭৯৩-১৯৪৭) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৫

ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস, আনন্দ পাবলিশার্স, কলকাতা

## Paper 2 DSE-A-3 SEM -6: History of Bengal (c.1905-1947)

- I. Partition of Bengal and Swadeshi Movement (1905-08) Political ideology and organizations, rise of Extremism in Bengal, Swadeshi movement, Revolutionary terrorism.
- II. Communal Politics: 1906- 30 Birth of Muslim League, and the Hindu response.
- III. Gandhian nationalism after 1919, Non- Cooperation and Khilafat movement, Swaraj party, Civil Disobedience movement, Revolutionary Nationalists and the beginnings of Left politics in the 1920s, Rise of Krishak Praja Party, Muslim League in Bengal politics.
- IV. Government of India Act 1935 and its aftermath:
- V. Peasant Movements in Bengal 1920-1946, Labour Movement in Bengal 1920-1946, Caste Movement in Bengal 1920-1946, Women's Movements in Bengal 1920-1946.
- VI. Subhash Chandra Bose and the Congress, Quit India Movement in Bengal, Post war upsurges in Bengal- Left wing movements.
- VIII. Independence and Partition: Communal Riots, the great Calcutta killing and Noakhali riots, Hindu Mahasabha, Muslim League, freedom and Partition, Birth of West Bengal and East Pakistan.

### Select Readings:

Bhattacharya Sabyasachi , The Defining Moments in Bengal 1920–1947 New Delhi: Oxford University Press, 2014.

Brown Judith, Gandhi's rise to Power, 1915-22. Cambridge University Press, 1974

Brown Judith, Gandhi: A Prisoner of Hope. Yale University Press, 1991

Chandra Bipan, Panikkar K.N., Mukherjee Mridula, Mahajan Sucheta and Mukherjee Aditya, India's, Struggles for Independence.

Hiren Chakrabarty, Political Protest In Bengal : Boycott and Terrorism 1905-1918 Papyrus, Calcutta

Das Suranjan, Communal Riots in Bengal 1905-47, Oxford University Press, OUP 1991, 1993

Sarkar Sumit, Modern India, 1885-1947. Macmillan Publishers India Publication, 2000.

Sarkar Sumit , The Swadeshi Movement in Bengal 1903-1908 New Delhi: People's Publishing House, 1973

Tripathi Amalesh, The Extremist Challenge: India between 1890 and 1910 Orient Longmans, 1967.

বন্দ্যোপাধ্যায় শেখর, পলাশি থেকে পার্টিশান, ওরিয়েন্ট লংম্যান

চন্দ্র বিপান এবং অন্যান্য, ভারতের স্বাধীনতা সংগ্রাম, কে পি বাগচি এন্ড কোং, কলকাতা

চন্দ্র বিপান এবং অন্যান্য, ভারতবর্ষ – স্বাধীনতার পরে, , আনন্দ পাবলিশার্স, কলকাতা

চন্দ্র বিপান, আধুনিক ভারতঃ ঔপনিবেশিকতাবাদ ও জাতীয়তাবাদ, কে পি বাগচি এন্ড কোং, কলকাতা

চ্যাটার্জী জয়া, বাংলা ভাগ হোল: হিন্দু সাম্প্রদায়িকতা ও দেশ-বিভাগ, ১৯৩২-১৯৪৭। এল আলমা পাবলিকেশনস, কলকাতা, ২০০৩

দেশাই এ আর, ভারতীয় জাতীয়তাবাদের সামাজিক পটভূমি, কে পি বাগচি এন্ড কোং, কলকাতা

দত্ত রজনী পাম, আজিকার ভারত সরকার সুশোভন, বাংলার রেনেসাঁস, দীপায়ন, কলকাতা  
ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস ১৮৮৫-১৯৪৭। কলকাতা আনন্দ  
পাবলিশার্স, ২০১২।

ত্রিপাঠী অমলেশ, ভারতের মুক্তিসংগ্রামে চরমপন্থী পর্ব, আনন্দ পাবলিশার্স, কলকাতা  
ভট্টাচার্য সব্যসাচী, বাংলায় সন্ধিক্ষণ: ইতিহাসের ধারা ১৯২০-৪৭। অক্সফোর্ড ইউনিভার্সিটি প্রেস:  
২০১৮।

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস(২য় খন্ড) (মুঘল ও ব্রিটিশ ভারত) পশ্চিমবঙ্গ রাজ্য  
পুস্তক পর্ষদ, ৪র্থ মুদ্রণ, ১৯৯৮

সুর নিখিল, ভারতীয় জাতীয়তাবাদী আন্দোলনের পটভূমি, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৯  
চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৮৫৮-১৯২০) (১ম খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৮

চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৯২০-১৯৪৭) (২য় খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক  
পর্ষদ, ১৯৯৯

সেন সুনীল, ভারতে কৃষিসম্পর্ক(১৭৯৩-১৯৪৭) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৫

ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস, আনন্দ পাবলিশার্স, কলকাতা

## **Paper 3 DSE-B-2 SEM -5: History of Southeast Asia – The 19<sup>th</sup> Century**

### **I. Pre-Colonial Structures of Power and Authority c.1800**

### **II. Economy and Society in early 19<sup>th</sup> c.**

a) Patterns of production in agriculture and the crafts

- b) Organisation of trade and banking
- c) Cultural expressions : Folk and Classical
- d) Islam and popular culture

### **III. Colonisation and Colonial Transformations:**

- a) Processes of colonial controls and the Informal Empire in Thailand
- b) Peasant society and agrarian transformations, plantations, forests, mining.
- c) Urbanisation : Colonial cities in Plural Societies
- d) Culture : i) Colonial Discourses and the Creation of National Culture
- ii) Oral traditions, literacy and the case of Malay Hikayats.
- iii) Creation of Perfect Natives
- iv) Education

### **Essential Readings**

Anderson B., *Imagined Communities: Reflections on the Origin and Spread of Nationalism* Verso 1983

Benda H., *The Crescent and the Rising Sun*. The Hague, W. van Hoeve , 1958.

Furnivall, *Colonisation and the Plural Society* Oxford University. Press, 1980

Hart G., ed., *Agrarian Transformations: Local Processes and the state in South-East Asia*. Berkeley : University of California Press, 1989

Kemp J., ed., *Peasants and Cities, Cities and Peasants : Rethinking Southeast Asian Models*.

Osborne Milton, *South East Asia : An Introductory History* Allen & Unwin, 2016.

Tarling Nicholas, ed., *Cambridge History of South-East Asia*, 2 vols. Cambridge University Press . 1993

দাসগুপ্ত অরুণ, দক্ষিণ পূর্ব এশিয়ার ইতিহাস

সেন জহর, দক্ষিণ পূর্ব এশিয়ার ইতিহাস

### **Suggested Readings**

Anderson B., *Mythology and the Tolerance of the Javanese Southeast Asia Program* Cornell University monograph series, Modern Indonesia Project (1985)

Dijk Van C., *Trousers, Sarongs and Jubbahs*

Dobblin C., *Islamic Revivalism in a Changed Peasant Economy (1784 – 1847)* London: Curzon Press, 1983

Keys, Charles F., *The Golden Peninsula Honolulu : University of Hawaii Press*, 1995.

Lev Daniel S., and McVey T., eds, *Making Indonesia – Essays on Modern Indonesia*. Ithaca: Cornell Southeast Asia Program, 1996

Purcell Victor, *The Chinese in South-East Asia* London and New York: Oxford University Press, 1951

Winichakul Tongchai, *Siam Mapped : A History of the Geo-Body of a Nation* University of Hawaii Press, 1994

Wyatt, David K, *Thailand: Studies in Thai History*, 1999

## **Paper 4 DSE-B-4 SEM -6: History of Southeast Asia – The 20<sup>th</sup> Century**

### **I. Migration : Indian and Chinese Labour and Capital**

### **II. Movements of Resistance and the making of new identities**

- a) Peasant resistance
- b) Radicalism and the Origins of the Vietnamese Revolution, 1920-1946
- c) Indonesian Revolution, 1945-1949

### **III. Emergence of Modern Nations and States**

- a) The Union of Burma (Mynamar), 1948-1962
- b) Indonesia, the Sukarno Era, 1949-1965
- c) Two Vietnams : 1946 - 1976

### **Essential Readings**

Amin Mohammad and Malcolm Coldwell, ed, Malay: The Making of a Neo Colony, 1977  
Anderson B., Imagined Communities Reflections on the Origin and Spread of Nationalism Verso 1983  
Bandyopadhyay Sekhar, Burma Today, 1987  
Benda H., The Crescent and the Rising Sun The Hague, W. van Hoeve, 1958.

Furnivall, Colonization and the Plural Society Oxford University. Press, 1980  
Hart G., ed., Agrarian Transformations: Local Processes and the state in South-East Asia Berkeley : University of California Press, 1989  
Kemp J., ed., Peasants and Cities, Cities and Peasants : Rethinking Southeast Asian Models. Legge John D, Indonesia (1964)  
Osborne Milton, South East Asia: An Introductory History Osborne Milton, Allen & Unwin, 2016.  
Ryan N. J, A History of Malaysia and Singapore, 1976  
Sardesai D.R, Vietnam : Trials and tribulations of a Nation (1988)  
Tarling Nicholas, ed., Cambridge History of South-East Asia, 2 vols. Cambridge University Press . 1993

সেন জহর, দক্ষিণ পূর্ব এশিয়ার ইতিহাস, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ,  
মুখোপাধ্যায় সুবোধ, দক্ষিণ পূর্ব এশিয়া ,

### **Suggested Readings**

Anderson B., Mythology and the Tolerance of the Javanese Southeast Asia Program Cornell University monograph series, Modern Indonesia Project (1985)  
Dijk Van C., Trousers, Sarongs and Jubbahs  
Dobblin C., Islamic Revivalism in a Changed Peasant Economy (1784 – 1847) ) London: Curzon Press, 1983  
Keys, Charles F., The Golden Peninsula Honolulu :University of Hawaii Press, 1995.  
Lev Daniel S., and McVey T., eds, Making Indonesia – Essays on Modern Indonesia. Ithaca: Cornell Southeast Asia Program, 1996  
Purcell Victor, The Chinese in South-East Asia London and New York: Oxford University Press, 1951

Winichakul Tongchai, Siam Mapped : A History of the Geo-Body of a Nation University of Hawaii Press, 1994

Wyatt, David K, Thailand: Studies in Thai History, 1999

## **Paper 5 DSE-B-1 SEM -5: History of Modern East Asia – I China (c.1840 – 1949)**

### **I. Imperialism and China during the 19<sup>th</sup> and early 20<sup>th</sup> century**

- a) Chinese feudalism : Gentry, Bureaucracy and peasantry; the Confucian value system; Sinocentrism; the canton commercial system
- b) The transformation of China into an informal colony; the Opium Wars; the Unequal Treaties; the scramble for concessions; Finance Imperialism; the Open Door policy.
- c) Agrarian and Popular Movements : Taiping and Yi Ho Tuan
- d) Attempts at Self-Strengthening (Tzu-Chiang): Reforms of 1860-95; 1898; and 1901-08.
- ii) The Emergence of Nationalism in China
  - a) The Revolution of 1911: Causes, nature and significance; the social composition of the Revolution; Sun Yat-sen and his contribution; the formation of the Republic; Yuan Shih Kai; War Lordism.
  - b) May Fourth Movement of 1919: Nature and Significance

### **II. History of China (cc.1919 – 1949)**

- i) Nationalism and Communism in China (1921 – 1937)
  - a) Formation of CCP; and the
  - b) The First United Front
- i) The Communist Movement (1938-1949)
- ii) The Jiangxi Period and the rise of Mao Tse Tung

### **Essential Readings**

- Beckmann George M., *Modernization of China and Japan* Harper & Row, 1962
- Bianco Lucien, *Origins of the Chinese Revolution, 1915 -1949* Stanford University Press, 1973
- Chesneaux Jean, et al, *China from Opium War to 1911 Revolution to Liberation*. Hassocks, Sussex : The Harvester Press, cop.1976
- Chesneaux Jean, *Peasant Revolts in China, 1840 – 1949* W. W. Norton ,1973
- Chung Tan, *China and the Brave New World : A Study of the Origins of the Opium War, 1840 - 42*
- Chung Tan, *Triton and Dragon : Studies on the Nineteenth Century China and Imperialisms* Gian Publishing House, 1986
- Fairbank J.K (ed), *The Cambridge History of China, Vol. X* Cambridge University Press, 1978
- Fairbank John K., et al, and *East Asia: Modern Transformation* London : Allen & Unwin, 1965
- Franke Wolfgang, *A Century of Chinese Revolution* University of South Carolina Press, 1980
- Hsu Y.Immanuel, *The Rise of Modern China* OUP 1995
- Jansen M.B., *Japan and China: From War to Peace, 1894 – 1972* Chicago : Rand McNally College Pub. Co., [1975
- Johnson Chalmers A, *Peasant Nationalism and Communist Power: The Emergence of Red China, 1937 -1945* Stanford, 1962
- Michael Franz, *The Taiping Rebellion* Seattle and London: University of Washington Press, 1971
- Peffer Nathaniel, *The Far East: A Modern History*. University of Michigan Press, 1958
- Purcell Victor, *The Boxer Uprising: A Background Study*. Cambridge University Press, 2010
- Schiffrin Harold Z, *Sun Yat-Sen and the Origin of the Chinese Revolution*. University of California Press, 1968

Schuramann Franz and Schell Orville (eds.), China Readings, 2 Volumes, (Imperial China, and Republican China) Penguin; First edition 1967  
Schwartz Benjamin I., Mao and the Rise of Chinese Communism. Stanford, Stanford University Press,. 1951.  
Sheng Hu, Imperialism and Chinese Politics. Foreign Languages Press, 1981  
The Yi Ho Tuan Movement, The Revolution of 1911, Foreign Language Press, Beijing.  
Tse Tung Chow, The May Fourth Movement: Intellectual Revolution in Modern China. Stanford University Press: Stanford, 1967  
Wright Mary C., China in Revolution : The First Phase, 1900 – 1913. New Haven: Yale University Press, 1968  
Yu-teng Ssu and K. Fairbank John , China's Response to the West. Cambridge: Harvard University Press, 1954

চৌধুরী দেবপ্রসাদ-আধুনিক যুগে পূর্ব এশিয়ার সংক্ষিপ্ত ইতিহাস, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ,, কলকাতা, ১৯৮৬  
ভট্টাচার্য্য অমিত- চীনের রূপান্তরের ইতিহাস, ১৮৪০-১৯৮৯, কলকাতা, ২০০৪  
চট্টোপাধ্যায় হরপ্রসাদ, চীনের ইতিহাস, কলকাতা, ১৯৮৮  
সেন জহর, এ যুগের চীনকথা, কলকাতা, ২০০৭

## **Paper 6 DSE-B-3 SEM -6: History of Modern East Asia – II Japan (c.1868 – 1945)**

### **I) Transition from feudalism to capitalism:**

- a) Crisis of Tokugawa Bakuhau system
- b) Meiji Restoration : Its nature and Significance
- c) Political Reorganization
- d) Military Reforms



- e) Social, cultural and educational reforms (Bunmeikaika)
- f) Financial reforms and educational development in the 'Meiji' era
- g) Meiji Constitution

## **II) Japanese Imperialism**

- a) China
- b) Manchuria
- c) Korea

## **3) Democracy and Militarism / Fascism**

- a) Popular/ People's Rights Movement
- b) Nature of political parties
- c) Rise of Militarism-Nature and significance
- d) Second World War; American occupation
- e) Post-War Changes

## **Essential Readings**

Allen George, A Short Economic History of Modern Japan. Psychology Press, 2003  
 Beasley G., The Modern History of Japan. Weidenfeld & Nicolson, 1963  
 Beckman George M, Modernization of China and Japan. Joanna Cotler Books , 1962  
 Beckman George M, The Making of the Meiji Constitution . Praeger; New edition 1975  
 Fairbank John K., et al, East Asia: Modern Transformation. London : Allen & Unwin, 1965  
 Jansen M B (ed), The Cambridge History of Japan Vols. I and II  
 Livingstone Jon, et al., The Japan Reader (Imperial Japan : 1800 – 1945), Vol.I Pantheon, 1974  
 Mikiso Hane, Modern Japan: A Historical Survey. Westview Press, 4th edition 2008  
 Norman E.H, Japan's Emergence as a Modern State. Greenwood Press, 1973  
 Peffer Nathaniel, The Far East: A Modern History. University of Michigan Press, 1968 -  
 Pyle Kenneth B., The Making of Modern Japan. D.C. Heath, 1996  
 Storry Richard, A History of Modern Japan Penguin Books, 1991  
 Vinacke H, A History of the Far East in Modern Times 1928

চৌধুরী দেবপ্রসাদ-আধুনিক যুগে পূর্ব এশিয়ার সংক্ষিপ্ত ইতিহাস, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা, ১৯৮৬

ভট্টাচার্য্য অমিত- জাপানের রূপান্তরের ইতিহাস, ১৬০০-১৯৪৫, কলকাতা, ২০০৫

চট্টোপাধ্যায় হরপ্রসাদ, জাপানের ইতিহাস, কলকাতা, ১৯৮৬

গুহরায় সিদ্ধার্থ, - আধুনিক পূর্ব এশিয়ার ইতিহাস: চীন ও জাপানের ইতিহাস, কলকাতা, ১৯৯৬

## **Paper 7 DSE-A-2 SEM -5: History of United States of America – I (c.1776 – 1945)**

### **I. The Background:**

The land and indigenous people: settlement and colonization by Europeans; early colonial society and politics; indentured labour- White and Black.

### **II. Making of the Republic:**

a) Revolution : Sources of conflict : Revolutionary groups, Ideology: The War of Independence and its historical interpretations

b) Processes and Features of Construction making : Debates, Historical interpretations.

### **III. Evolution of American Democracy:**

- a)Federalists: Jeffersonianism: Jacksonianism, Rise of political parties- 1840 – 1960; judiciary- role of the Supreme Court
- b) Expansion of Frontier: Turner's Thesis; Marginalization, displacement and decimation of native Americans; Case histories of Tecumseh , Shawnee Prophet.
- c)Limits of Democracy: Blacks and Women

### **IV. Early Capitalism**

- a) Beginnings of Industrialization
- b) Immigrants and changing composition of Labour; Early Labour Movements.

### **V. The Agrarian South :**

- a)Plantation economy
- b)Slave Society and Culture: Slave resistance.

### **VI. Ante Bellum Foreign Policy:**

War of 1812: Monroe Doctrine: Manifest Destiny

### **VII. Civil War:**

- a)Abolitionism and Sectionalism
- b)Issues and interpretations
- c)Rise of Republicanism, Emancipation and Lincoln

### **Essential Readings**

Bailyn Bernard, The Great Republic 1985.

Bailyn Bernard, The Ideological Origins of the American Revolution. Harvard University Press 1967

Beard Charles, An Economic Interpretation of the American Constitution. Macmillan, 1921

Brown Dee, Bury My Heart at Wounded Knee, An Indian History of the American West. Grover Gardner 1970

Carroll Peter and Noble David, Free and Unfree: A New History of the United States. Penguin Books, 1977.

Davis David B., The Problem of Slavery in the Age of Revolution 1770-1823. New York: Oxford University Press, 1999.

Faulkner U., American Economic History . New York, Harper, 1960

Fogel Robert, Railroads and American Economic Growth Baltimore: Johns Hopkins Press, 1964.

Foner Eric, America's Black Past. Harper collins, 1970

Franklin, John Hope, From Slavery to Freedom. New York: Alfred A Knopf, 1947

Grobb Gerald N., and Billias George A., Interpretations of American History: Patterns and Perspectives, 2 Vols. New York, Free Press 1972.

Hofstadter Richard, The Age of Reform, From Bryan to FDR. Vintage Books, 1955

Kerber Linda, Women's America: Refocussing the Past. Oxford University Press, 1991

Potter David M., The Impending Crisis HarperCollins, 1977

Pratt W., A History of the United States Foreign Policy. Prentice-Hall, 1965

Randail James, The Civil War and Reconstruction. W. W. Norton & Company ,1937

Randall J.G and Donald David, The Civil War and Reconstruction. Pickle Partners Publishing, 2016

Stampf Kenneth, *The Peculiar Institution, Slavery in the Antebellum South*. (New York: Alfred A. Knopf, 1956)

Jackson Frederick Turner, *The Frontier in American History*. Henry Holt, 1921

Wiebe Robert, *The Search for Order*. Farrar, Straus and Giroux, 1967

### **Suggested Readings**

Benson Lee, *The Concept of Jackson Democracy: New York as a Test Case* Princeton Legacy Library 1961

Billington Ray A., *Westward Expansion*. UNM Press, 2001

Boyer Paul, Sitkoff Harvard, Woloch Nancy, *The Enduring Vision : A History of the American People*, Vols. 1 and 2. Houghton Mifflin; 5th Revised edition 2003

Cochran Thomas, *The Inner Revolution* Harper Torchbooks, The Academy Library), 1964.

Craven A.O., *The Growth of Southern Nationalism, 1848 – 1861*. Louisiana State University Press, 1953

Davis lance E.,(ed.), *American Economic Growth*. Harper & Row; First edition 1972

Degler Carl N., *At Odds: Women and Family in America from the Revolution to the Present*. Oxford University Press, 1980

Fogel and Engerman, *Time on the Cross*. Brown and Company, 1974.

Gould Lewis L., (ed.), *The Progressive Era*. Longman, 2001

Hicks, John D., *The Federal Union : A History of USA since 1865*. Houghton Mifflin, 1964

Kaushik R.P., *Significant Themes in American History*. Ajanta Publications, 1983

Kennedy, David M., Bailey Thomas and Piehl Mel, *The Brief American Pageant*. Cengage Learning, 1999.

Kristol Irving, Wood Gordon and others, *America's Continuing Revolution*.

Washington : American Enterprise Institute for Public Policy Research, 1975]

Leopard Richard W., *The Growth of American Foreign Policy*. Alfred A. Knopf 1967

Miller Perry, *From Colony to Province*. Harvard University Press, 1953

Nash Gary (ed.), *Retracing the Past*. Longman, 2000

Pelling Henry, *American Labor*. University of Chicago 1960

Pessen Edward, *Jacksonian Panorama*. Bobbs-Merrill, 1976

Sellers Charles, May Henry and McMillen Neil, *A Synopsis of American History*; 2 volumes. Rand McNally College Pub. Co., 1976

Tripathi Dwijendra and Tiwari S.C., *Themes and Perspectives in American History* American Studies Research Centre, 1978.

Weinstein James, *The Corporate Ideal in the Liberal state. 1900-1918* Beacon Press, 1985

## **Paper 8 DSE-A-4 SEM -6: History of United States of America – II (c.1776-1945)**

### **I. Reconstructions: Political changes and agrarian transformation:**

a) Conservative and Radical phases.

b) The New South : Participants and Reactions, Carpetbaggers; Scalawags, Blacks, Ku Klux Klan.

### **II. Industrial America:**

- a) Growth of Capitalism and Big Business.
- b) Business cycles; Depression..

### **III. Resistance and Reform:**

- a) Labour movements and Unionization.
- b) Agrarian crisis and populism. Urban corruption and progressivism.
- c) New Deal.

### **IV. U.S Imperialism**

- a) Spanish-American War
- b) Expansion in the Far east and Latin America
- c) World War I and Fourteen Points
- d) Isolation
- e) Americans in World War II: Bombing of Hiroshima and Nagasaki

### **V. Afro-American Movements:**

Black Movements: Booker T. Washington, W.E.B Dubois, NAACP and Marcus Garvey.

### **VI. Women's Movements:**

- a) Rise of the Lowell Factory System
- b) Abolitionists and Women's rights movement
- c) Suffrage
- d) Afro-American Women

### **VII. Religious, Cultural and Intellectual Trends:**

- a) Religious movements; Early Revivalism; Puritans, Quakers; Mormons; Temperance
- b) Mass Culture (circa 1900 – 1945)
- c) Major Literary trends (circa 1900 – 1945)

### **Essential Readings**

Bailyn Bernard, *The Great Republic* 1985.

Bailyn Bernard, *The Ideological Origins of the American Revolution*. Harvard University Press 1967

Beard Charles, *An Economic Interpretation of the American Constitution*. Macmillan, 1921

Brown Dee, *Bury My Heart at Wounded Knee, An Indian History of the American West*. Grover Gardner 1970

Carroll Peter and Noble David, *Free and Unfree: A New History of the United States*. Penguin Books, 1977.

Davis David B., *The Problem of Slavery in the Age of Revolution 1770-1823*. New York: Oxford University Press, 1999.

Faulkner U., *American Economic History*. New York, Harper, 1960

Fogel Robert, *Railroads and American Economic Growth* Baltimore: Johns Hopkins Press, 1964.

Foner Eric, *America's Black Past*. Harper collins, 1970

Franklin, John Hope, *From Slavery to Freedom*. New York: Alfred A Knopf, 1947

Grobb Gerald N., and Billias George A., *Interpretations of American History: Patterns and Perspectives*, 2 Vols. New York, Free Press 1972.

Hofstadter Richard, *The Age of Reform, From Bryan to FDR*. Vintage Books, 1955

Kerber Linda, *Women's America: Refocussing the Past*. Oxford University Press, 1991

Potter David M., *The Impending Crisis* HarperCollins, 1977

Pratt W., *A History of the United States Foreign Policy*. Prentice-Hall, 1965

Randail James, *The Civil War and Reconstruction*. W. W. Norton & Company ,1937  
 Randall J.G and Donald David, *The Civil War and Reconstruction*. Pickle Partners Publishing, 2016  
 Stamp Kenneth, *The Peculiar Institution, Slavery in the Antebellum South*. (New York: Alfred A. Knopf, 1956  
 Jackson Frederick Turner, *The Frontier in American History*. Henry Holt, 1921  
 Wiebe Robert, *The Search for Order*. Farrar, Straus and Giroux, 1967

### **Suggested Readings**

Benson Lee, *The Concept of Jackson Democracy: New York as a Test Case* Princeton Legacy Library 1961

Billington Ray A., *Westward Expansion*. UNM Press, 2001  
 Boyer Paul, Sitkoff Harvard, Woloch Nancy, *The Enduring Vision : A History of the American People*, Vols. 1 and 2. Houghton Mifflin; 5th Revised edition 2003  
 Cochran Thomas, *The Inner Revolution* Harper Torchbooks, The Academy Library), 1964.  
 Craven A.O., *The Growth of Southern Nationalism, 1848 – 1861*. Louisiana State University Press, 1953  
 Davis lance E.,(ed.), *American Economic Growth*. Harper & Row; First edition 1972  
 Degler Carl N., *At Odds: Women and Family in America from the Revolution to the Present*. Oxford University Press, 1980  
 Fogel and Engerman, *Time on the Cross*. Brown and Company, 1974.  
 Gould Lewis L., (ed.), *The Progressive Era*. Longman, 2001  
 Hicks, John D., *The Federal Union : A History of USA since 1865*. Houghton Mifflin, 1964  
 Kaushik R.P., *Significant Themes in American History*. Ajanta Publications, 1983  
 Kennedy, David M., Bailey Thomas and Piehl Mel, *The Brief American Pageant*. Cengage Learning, 1999.  
 Kristol Irving, Wood Gordon and others, *America's Continuing Revolution*. Washington : American Enterprise Institute for Public Policy Research, 1975]  
 Leopard Richard W., *The Growth of American Foreign Policy*. Alfred A. Knopf 1967  
 Miller Perry, *From Colony to Province*. Harvard University Press, 1953  
 Nash Gary (ed.), *Retracing the Past*. Longman, 2000  
 Pelling Henry, *American Labor*. University of Chicago 1960  
 Pessen Edward, *Jacksonian Panorama*. Bobbs-Merrill, 1976  
 Sellers Charles, May Henry and McMillen Neil, *A Synopsis of American History*; 2 volumes. Rand McNally College Pub. Co., 1976  
 Tripathi Dwijendra and Tiwari S.C., *Themes and Perspectives in American History* American Studies Research Centre, 1978.  
 Weinstein James, *The Corporate Ideal in the Liberal state. 1900-1918* Beacon Press, 1985

## **Skill Enhancement Courses (SEC –A & B) Credits,-2 each**

### **SEC –A (1): Archives and museums**

This course introduces students to the institutions that house and maintain documentary, visual and material remains of the past. Museums and archives are among the most important such repositories and this course explains their significance and how they work. Students will be encouraged to undertake collection, documentation and exhibition of such materials in their localities and colleges. Visit to National Archives and National Museum are an integral part of the course.

#### **I. Definition and history of development (with special reference to India)**

**II. Types of archives and museums:** Understanding the traditions of preservation in India Collection policies, ethics and procedures Collection: field exploration, excavation, purchase, gift and bequests, loans and deposits, exchanges, treasure trove confiscation and others. Documentation: accessioning, indexing, cataloguing, digital documentation and de-accessioning Preservation: curatorial care, preventive conservation, chemical preservation and restoration

#### **III. Museum Presentation and Exhibition:**

**IV. IV. Museums, Archives and Society:** (Education and communication Outreach activities

#### **Essential Readings:**

Agrawal, O.P., Essentials of Conservation and Museology, Sundeep Prakashan, New Delhi, India, 2007.

Choudhary, R.D. Museums of India and their maladies. Calcutta: Agam Kala Prakashan, New Delhi, 1998 (In Bengali).

Guha, Thakurta, Tapati, Monuments, Objects, Histories: Institution of Art in Colonial Post Colonial India, New York, 2004

Kathpalia, Y. P. Conservation and Restoration of Archive Materials. UNESCO, 1973

Mathur Saloni, India by Design: Colonial History and Cultural Display, University of California, 2007

Nair, S.M. Bio-Deterioration of Museum Materials. 2011

Roychowdhury, Madhuparna. Displaying India's Heritage : Archaeology and the Museum Movement in Colonial India. Delhi: Orient Blackswan 2015

Sengupta, S. Experiencing History Through Archives. Delhi: Munshiram Manoharlal. 2004.

## **SEC –B (1) Understanding Popular Culture**

The paper examines some popular cultures expressed in different mediums like visual, oral and cultural. In the process of their evolution, these cultures eclectically draw from traditions, articulate anxieties, and even give rise to new traditions. The paper endeavours to equip students with understanding such phenomena historically, with special reference to India. It is imperative that the students use electronic devices to view, record, and document the subject matter.

### **I Introduction: Defining popular culture and understanding it historically**

### **II Visual expressions Folk art, calendar art, photography**

**III. Performance: Theatre; music;** folk tales/songs/swang and Nautanki: Identifying themes, functionality, anxieties

### **IV. The audio-visual: cinema and television:**

Indian cinema: Mapping the influence of the national struggle for independence (1930s and 40s); Idealized nationalism (1950s), disillusionment and the anti-establishment mood (1970s and 80s); documentary films Expressions of popular culture in television

### **V. Fairs, Festivals and Rituals:**

Disentangling mythological stories, patronage, regional variations

### **VI. Popular culture in a globalized world:**

The impact of the Internet and audio-visual media

### **Essential Readings:**

Dissanayake, W. and K. M. Gokul Singh, Indian Popular Cinema, Trentham Book, London, 2004

John Storey, Cultural Theory and Popular Culture, London, 2001

Oberoi, Patricia, Freedom and Destiny: Gender, Family and Popular Culture in India, Delhi, 2009

Christopher Princy, Camera Indica: The Social Life of Indian Photographs, Chicago, 1998

### **Suggested Readings:**

Ramanujan, A.K. Folktales from India A Selection of Oral Tales from Twenty-two Languages (Only Introduction). New York : Pantheon Books, ©1991.

Ramaswamy, V. 'Women and the 'Domestic' in Tamil Folk Songs' in Kumkum Sangari and Uma Chakravarti, eds., From Myths to Markets: Essays on Gender, Shimla, 1999

Singh, Lata (ed.), Theatre in Colonial India: Playhouse of Power, New Delhi, 2009

## **SEC –A (2) Understanding Heritage**

This course will enable students to understand the different facets of heritage and their significance. It highlights the legal and institutional frameworks for heritage protection in India as also the challenges facing it. The implications of the rapidly changing interface between heritage and history will also be examined. The course will be strongly project-based and will require visits to sites and monuments. At least two Projects will be based on visits to Museums/Heritage Sites.

### **I. Defining Heritage**

Meaning of 'antiquity', 'archaeological site', 'tangible heritage', 'Intangible heritage' and 'art treasure'

### **II. Evolution of Heritage Legislation and the Institutional Framework:**

Conventions and Acts— national and international Heritage-related government departments, museums, regulatory bodies etc.

Conservation Initiatives

### **III. Challenges facing Tangible and Intangible Heritage**

Development, antiquity smuggling, conflict (to be examined through Specific case studies)

### **IV. Evolution of Heritage Legislation and the Institutional Framework:**

Conventions and Acts— national and international Heritage-related government departments, museums, regulatory bodies etc.

Conservation Initiatives

### **V. Challenges facing Tangible and Intangible Heritage:**

Development, antiquity smuggling, conflict (to be examined through specific case studies)

### **VI. Heritage and Travel:**

Viewing Heritage Sites - The relationship between cultural heritage, Landscape and travel recent trends

### **Essential Readings**

David Lowenthal, *Possessed By The Past: The Heritage Crusade and The Spoils of History*, Cambridge, 2010

Layton, R. P. Stone and J. Thomas. *Destruction and Conservation of Cultural Property*, London: Rutledge, 2001

Lahiri, N., *Marshaling the Past - Ancient India and its Modern Histories*. Ranikhet: Permanent Black. 2012. Chapters 4 and 5.

S.S. Biswas, *Protecting the Cultural Heritage (National Legislations and International Conventions)*. New Delhi: INTACH, 1999.

### **Suggested Readings**

Acts, Charters and Conventions are available on the UNESCO and ASI websites ([www.unesco.org](http://www.unesco.org); [www.asi.nic.in](http://www.asi.nic.in))



Agrawal, O.P., Essentials of Conservation and Museology, Delhi, 2006

Chainani, S. 2007. Heritage and Environment. Mumbai: Urban Design Research Institute, 2007

## **SEC –B (2): Art Appreciation: an Introduction to Indian Art**

The purpose of this course is to introduce students to Indian art, from ancient to contemporary times, in order to understand and appreciate its diversity and its aesthetic richness. The course will equip students with the abilities to understand art as a medium of cultural expression. It will give students direct exposure to Indian art through visuals, and visits to sites and museums.

**I. Prehistoric and protohistoric art:** \_Rock art; Harappan arts and crafts

**II. Indian art (c. 600 BCE – 600 CE):**

World Heritage Site Managers, UNESCO World Heritage Manuals  
[Can be downloaded/ accessed at [www.unesco.org](http://www.unesco.org)]

Notions of art and craft Canons of Indian paintings Major developments in stupa, cave, and temple art and architecture Early Indian sculpture: style and iconography Numismatic art

**III. Indian Art (c. 600 CE – 1200 CE) :** Temple forms and their architectural features Early illustrated manuscripts and mural painting traditions Early medieval sculpture: style and iconography Indian bronzes or metal icons

**IV. Indian art and architecture (c. 1200 CE – 1800 CE) :**

Sultanate and Mughal architecture Miniature painting traditions: Mughal, Rajasthani, Pahari  
Introduction to fort, palace and haveli architecture

**V. Modern and Contemporary Indian art and Architecture:**

The Colonial Period Art movements: Bengal School of Art, Progressive Artists Group, etc.  
Major artists and their artworks Popular art forms (folk art traditions)

### **Essential Readings**

Neumayer, Erwin, Lines of Stone: The pre-historic rock-art of India,  
South Asia Books, 1993

Goswamy, B.N., Essence of Indian Art, Asian Art Museum of San  
Francisco, 1986

Huntington, Susan, The Art of Ancient India: Hindu, Buddhist, Jain, Weatherhill, 1985

Guha-Thakurta, Tapati, The making of a new modern Indian art: Aesthetics and nationalism in  
Bengal, 1850-1920, Cambridge University Press, 1992

### **Suggested Readings:**

Mitter, Partha, Indian Art, Oxford History of Art series, Oxford University Press, 2001

Dhar, Parul Pandya, ed., 2011, Indian Art History Changing Perspectives, New Delhi: D.K.  
Printworld and National Museum Institute (Introduction).

Beach, M.C., The New Cambridge History of India I: 3, Mughal and Rajput Painting, Cambridge  
University Press, 1992.

Ray, Niharranjan, An Approach to Indian Art, Calcutta, 1970

**CBCS SYLLABUS**  
**IN**  
**HISTORY (GENERAL)**

**CALCUTTA UNIVERSITY**

**2018**

## University of Calcutta

### HIS-G (General)-CBCS Syllabus in History, 2018

#### **4 Core Courses. (CC.) 2 Discipline-specific Elective; (DSE-A & DSE-B) 2 Generic Elective (GE) 2 Skill Enhancement/Skill based Courses (SEC- A & SEC-B)**

- Each course carries 80 marks. Minimum 60 classes.
- Each course: 6 credits (5 Theoretical + 1 Tutorial-related). Teaching time: 6 hrs per week or  $6 \times 14 = 84$  hrs
- Exception: Skill Enhancement/Skill-based Courses: 2 credits (no Tutorial).
- 65 marks for theoretical segment:
- Question Pattern for subjective/descriptive segment of 50 marks: 3 questions out of 6 (within 500 words;  $10 \times 3 = 30$ ) + 4 questions out of 8 (within 250 words; one from each module  $5 \times 4 = 20$ ) and 15 objective type questions carrying 1 mark each ( $15 \times 1 = 15$ ).
- 15 marks for tutorial-related segments as suggested below (any one from each mode):
- Any one of the following modes: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review --- based on syllabus related and/or current topics [The modes and themes and/or topics are to be decided by the concerned faculty of respective colleges.]
- Core Courses (CC) in Semesters 1- 4 ; Generic Elective (GE) courses in Semesters 1-4; Skill Enhancement courses ( SEC-A) in Semesters 3/5 & ( SEC- B) in Semesters 4/6 Discipline-specific Elective( DSE –A) in Semester 5 (DSE –B) in Semester 6
- **Skill Enhancement/Skill-based Courses: 2 credits (no Tutorial).**
- Each course carries 80 marks. Teaching time: 2hrs per week or  $2 \times 14 = 28$  hrs
- 80 marks for theoretical segment.
- Question Pattern for subjective/descriptive segment of 80 marks: 4 questions out of 8 (within 500 words;  $10 \times 4 = 40$ ) + 5 questions out of 10 (within 250 words;  $5 \times 5 = 25$ ) and 15 objective type questions carrying 1 mark each ( $15 \times 1 = 15$ ).

**IMPORTANT NOTES:**

- The Readings provided below (except Bengali books) include those of the UGC Model CBCS Syllabus in History. For Course Objectives and references it is advised that the UGC model CBCS syllabus concerning relevant courses and topics should be given due importance and primarily consulted.
- Bengali are not necessarily substitutes, but supplementary to the English books.
- The format is subject to the CBCS Common Structural Format of the University.

<b>LIST OF COURSES FOR GENERAL PROGRAMME</b>	
<b>COURSE CODE</b>	<b>(6 Credits per Core Course)</b>
<b>CORE COURSES FOR GENERAL &amp; GENERIC ELECTIVE FOR HONOURS</b>	
<b>Subject-Hon-Core-Semester-Paper-Th &amp; TU</b>	
HIS-G-CC/GE-1-1-TH&TU	
HIS-G-CC/GE-2-2-TH&TU	
HIS-G-CC/GE-3-3-TH&TU	
HIS-G-CC/GE-4-4-TH&TU	
<b>Skill Enhancement Course (2 Credits per Course)</b>	
<b>GROUP-A</b>	<b>HIS-G-SEC- 3/5-A(1) or A (2)-TH</b>
SEC-A-(1)	
SEC-A-(2)	
<b>GROUP-B</b>	<b>HIS-G-SEC- 4/6-B(1) or B(2)-TH</b>
SEC-B-(1)	
SEC-B-(2)	
<b>DISCIPLINE SPECIFIC ELECTIVE (6 Credits per Course)</b>	
<b>GROUP-A</b>	<b>HIS-G-DSE- 5-A(1) or A(2)-TH&amp;TU</b>
DSE-A-(1)	
DSE-A-(2)	
<b>GROUP-B</b>	<b>HIS-G-DSE-6-B(1) or B (2)-TH&amp;TU</b>
DSE-B-(1)	
DSE-B-(2)	

## **Structure of B.A General (Programme)**

### **HIS-G - CC -1- 4 /GE -1-4 TH&TU**

1. History of India from the Earliest Times upto 300 CE
2. History of India from C.300 to 1206.
3. History of India from C. 1206 to 1707
4. History of India from 1707 to 1950

### **Discipline Specific Elective (DSE -A & DSE- B) TH&TU Any One from DSE-A in Semester 5 & Any One from DSE-B in Semester 6**

1. National liberation Movements in 20th Century World.
2. Some Aspects of European History: C.1780-1945.
3. Patterns of Capitalism in Europe: C.16th Century to early 20th Century
4. Some Aspects of Society & Economy of Modern Europe: 15 – 18 Century

### **Skill Enhancement Courses SEC –A & B: Any One from SEC-A1/ SEC-A2 in Semester 3/5. Any One from SEC-B1/ SEC-B2 in Semester 4/6**

SEC -A 1: Historical Tourism: Theory & Practice

SEC -B 1: Museums & Archives in India

SEC –A 2: Indian History & Culture

SEC-B 2: Orality and Oral Culture in India

### **Semester wise Courses for HIS-G**

	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6
CC	CC-1 2TH +2TU	CC -2 2TH +2TU	CC-3 2TH +2TU	CC-4 2TH +2TU		
GE	GE-1 TH +TU	GE-2 TH +TU				
AECC	AECC-1 TH	AECC-2 TH				
DSE			DSE-A TH +TU	DSE-B TH +TU	DSE-A TH +TU	DSE-B TH +TU
SEC			SEC-A -1 TH	SEC-B -1 TH	SEC-A 2 TH	SEC-B 2 TH

**CC: 4 courses each from 2 disciplines. (One course from each subject under each semester) Each course is of 6 credits.**

**GE: Two courses from one subject different from the core subject. Each course is of 6 credits.**

**AECC:-1 Communicative English AECC-2- Environmental studies (Each course has 2 credits)**  
**DSE: 2 courses each from 2 disciplines. Each course is of 6 credits.**  
**SEC: 2 courses each from 2 disciplines ((Each course has 2 credits)**  
**DSE/ SEC : Choice must be group specific to each semester**

## **CC -1/GE-1 : History of India from Earliest Times up to 300 CE**

**I. Sources & Interpretation**

**II. A broad survey of Palaeolithic, Mesolithic and Neolithic Cultures.**

**III. Harappan Civilization : Origin, Extent, dominant features & decline, Chalcolithic age.**

**IV. The Vedic Period: Polity, Society, Economy and Religion, Iron Age with reference to PGW & Megaliths.**

**V. Territorial States and the rise of Magadha,**

**Conditions for the rise of Mahajanpadas and the Causes of Magadha's success**

**VI. Iranian and Macedonian Invasions, Alexander's Invasion and impact**

**VII. Jainism and Buddhism: Causes, Doctrines, Spread, Decline and Contributions**

**VIII. The Satavahanas Phase: Aspects of Political History, Material Culture, Administration, Religion**

**VIII. Emergence and Growth of Mauryan Empire; State Administration, Economy, Ashoka's Dhamma, Art & Architecture**

**IX. The Satvahana Phase: Aspects of Political History, Administration, Material Culture, & Religion**

**X. The Sangam Age: Sangam Literature, The three Early Kingdoms, Society & the Tamil language**

**XI. The age of the Indo-Greeks, Shakas: Parthians & Kushanas: Aspects of Polity, Society, Religion, Arts & Crafts, Coins, Commerce and Towns.**

### **References:**

Agrawal, D.P. The Archaeology of India. Curzon Press, 1982

Basham, A.L. The Wonder that was India: A Survey of the Culture of the Indian Sub-Continent before the Coming of the Muslims. Picador, 2004

Chakrabarti, D.K. Archaeology of Ancient Indian Cities OUP India; 1998

Jaiswal, Suvira, Caste: Origin, Function and Dimensions of Change. Manohar Publishers 1998

Subramanian, N. Sangam Polity

Thapar, Romila The Penguin History of Early India: From the Origins to AD 1300 University of California Press; 1st edition 2004

Allchin, F.R. and B Origins of a Civilization: The Prehistory and Early Archaeology of South Asia New Delhi : Viking, 1997.

Jha, D.N. Ancient India in Historical Outline .Manohar, New Delhi (1998 edn.)  
Kosambi, D.D. Culture and Civilization of Ancient India World Publishing Company, 1969

Ray, H.P. Monastery and guild : commerce under the Sātavāhanas  
Delhi ; New York : Oxford University Press, 1986.

Sastri, K.A.N. A History of South India :From Prehistoric Times to the Fall of Vijayanagar OUP India 1976

R.S Sharma, India's Ancient Past Delhi: Oxford University Press 2005

Ray, Niharranjan , Maurya and Post Maurya Art: A Study in Social and Formal Contrasts .  
Indian Council of Historical Research, 1975

Sharma, R.S., Aspects of Political Ideas and Institutions in Ancient India (1991 edn.)  
Thapar, Romila Ashoka and the Decline of the Mauryas Oxford University Press (1997 edn)  
Yazdani, G. Early History of Deccan Aspects of Political Ideas and Institutions in Ancient India (1991 edn.)

বাসাম এ এল, অতীতের উজ্জ্বল ভারত, (The Wonder That Was India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৫

চক্রবর্তী রণবীর, ভারত ইতিহাসের আদি পর্ব, কলকাতা, ২০০৭

হাবিব ইরফান, ভারতবর্ষের সাধারণ মানুষের ইতিহাস

প্রথম খন্ড – প্রাক-ইতিহাস, (Pre-history) এন বি এ, কলকাতা, ২০০২

দ্বিতীয় খন্ড: সিন্ধু সভ্যতা, (The Indus Civilisation) এন বি এ, কলকাতা, ২০০২

তৃতীয় খন্ড – বৈদিক সভ্যতা, (The Vedic Age) এন বি এ, কলকাতা, ২০০২

ঝা ডি এন, আদি ভারত – একটি সংক্ষিপ্ত ইতিহাস, (Ancient India: An Introduction,) প্রগ্রেসিভ পাবলিশার্স, কলকাতা

কোশান্বী ডি ডি, ভারত ইতিহাস চর্চার ভূমিকা (An Introduction to the Study of Indian History) বাগডি কে পি এন্ড কোং, কলকাতা, ২০০২

রত্নাগর শিরিণ, হরপ্পা সভ্যতার সন্ধান (Understanding Harappa) এন বি এ, কলকাতা, ২০০৩

রায়চৌধুরী হেমচন্দ্র, প্রাচীন ভারতের রাজনৈতিক ইতিহাস, (Political History of Ancient India), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা

থাপার রোমিলা, ভারতবর্ষের ইতিহাস, ওরিয়েন্ট লংম্যান, কলকাতা

ভট্টাচার্য নরেন্দ্রনাথ, প্রাচীন ভারতে ধর্ম, কলকাতা, ১৯৮৮

ভট্টাচার্য নরেন্দ্রনাথ, প্রাচীন ভারতীয় সমাজ, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা  
ভট্টাচার্য সুকুমারী, ইতিহাসের আলোকে বৈদিক সাহিত্য, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা  
ভট্টাচার্য সুকুমারী, প্রাচীন ভারত- সমাজ ও সাহিত্য, আনন্দ পাবলিশার্স, কলকাতা  
চক্রবর্তী দিলীপ কুমার - ভারতবর্ষের প্রাক ইতিহাস আনন্দ পাবলিশার্স, কলকাতা, ১৯৯৯  
গঙ্গোপাধ্যায় দিলীপ কুমার - ভারত ইতিহাসের সঙ্কলনে, (২ খন্ডে), ২০০৭  
চক্রবর্তী রণবীর, প্রাচীন ভারতের অর্থনৈতিক ইতিহাসের সঙ্কলনে, আনন্দ পাবলিশার্স, কলকাতা ২০০২  
(সংশোধিত সংস্করণ)  
চানানা দেবরাজ, প্রাচীন ভারতে দাস প্রথা, (Slavery in Ancient India as depicted in Pali and Sanskrit Texts), কে পি বাগচি এন্ড কোং, কলকাতা ১৯৯৫  
রায় নীহাররঞ্জন, বাঙালির ইতিহাস, কলকাতা, ১৯৮০(দ্বিতীয় সংস্করণ)  
শর্মা রামশরণ, প্রাচীন ভারতে বস্তুগত সংস্কৃতি ও সমাজ সংগঠন, (Material Cultures and Social Formations in Ancient India), ওরিয়েন্ট লংম্যান, ১৯৯৮  
শর্মা রামশরণ, আদি মধ্যযুগের ভারতীয় সমাজ : সমস্ত-প্রক্রিয়া বিষয়ে এক সমীক্ষা(Early Medieval Indian Society : A Study in Feudalism) ওরিয়েন্ট লংম্যান, ২০০৩  
শর্মা রামশরণ, ভারতের সমাজতন্ত্র, (Indian Feudalism), কে পি বাগচি এন্ড কোং, কলকাতা  
শর্মা রামশরণ, আর্যদের অনুসন্ধান, (Looking for the Aryans), প্রগ্রেসিভ পাবলিশার্স, কলকাতা  
শর্মা রামশরণ, আর্যদের ভারতে আগমন, (Advent of the Aryans), ওরিয়েন্ট লংম্যান, ২০০১  
শর্মা রামশরণ, প্রাচীন ভারতে শূদ্র, (Sudras in Ancient India), কে পি বাগচি এন্ড কোং, কলকাতা  
থাপার রোমিলা, অশোক ও মৌর্যদের পতন, (Asoka and the Decline of the Mauryas), কে পি বাগচি এন্ড কোং, কলকাতা  
চট্টোপাধ্যায় সুনীল, প্রাচীন ভারতের ইতিহাস (১ম খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, একাদশ মুদ্রণ, এপ্রিল ২০০৪  
চট্টোপাধ্যায় সুনীল, প্রাচীন ভারতের ইতিহাস (২য় খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ৮ম মুদ্রণ, ফেব্রুয়ারি ২০০৪  
মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, প্রথম মুদ্রণ নভেম্বর ১৯৯৭



## **CC-2/GE- 2: History of India from. C.300 to1206**

I. The Rise & Growth of the Guptas: Administration, Society, Economy, Religion, Art, Literature, and Science & Technology.

II. Harsha & His Times: Harsha's Kingdom, Administration, Buddhism & Nalanda

III. South India: Polity, Society, Economy & Culture

IV. Towards the Early Medieval: Changes in Society, Polity Economy and Culture with reference to the Pallavas, Chalukayas and Vardhanas.

V. Evolution of Political structures of Rashtrakutas, Pala & Pratiharas.

VI. Emergence of Rajput States in Northern India: Polity, Economy & Society.

VII. Arabs in Sindh: Polity, Religion & Society.

VIII. Struggle for power in Northern India & establishment of Sultanate.

### **References:**

R. S. Sharma: Indian Feudalism 1980.

R. S. Sharma -India's Ancient Past, New Delhi, 2005.

B. D. Chattopadhyay: Making of Early Medieval India , 1994.

Derryl N. Maclean: Religion and Society in Arab Sindh Leiden ; New York : E.J. Brill, 1989.

K. M. Ashraf: Life and Conditions of the People of Hindustan, New Delhi, 1967.

M. Habib and K.A. Nizami: A Comprehensive History of India Vol.V, Delhi, 1993.

Tapan Ray Chaudhary and Irfan Habib (ed.) : The Cambridge Economic History of India, Vol.I, Cambridge University Press .1982

Peter Jackson: Delhi Sultanate: A Political and Military History, Keele University 2003.

Tara Chand: Influence of Islam on Indian Culture, Indian Press, 1936.

Satish Chandra: A History of Medieval India, 2 Volumes Orient Black Swan 2009

Percy Brown, : Islamic Architecture, Taraporevala Sons, 1943.

রোমিলা থাপার, অশোক ও মৌর্যদের পতন, (Asoka and the Decline of the Mauryas), কে পি বাগচি এন্ড কোং, কলকাতা

সুনীল চট্টোপাধ্যায়, প্রাচীন ভারতের ইতিহাস (১ম খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, একাদশ মুদ্রণ, এপ্রিল ২০০৪

সুনীল চট্টোপাধ্যায়, প্রাচীন ভারতের ইতিহাস (২য় খন্ড), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ৮ম মুদ্রণ, ফেব্রুয়ারি ২০০৪

হীরেন্দ্রনাথ মুখোপাধ্যায়, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, প্রথম মুদ্রণ নভেম্বর ১৯৯৭

বামশাম এ এল, অতীতের উজ্জ্বল ভারত, (The Wonder That Was India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৫

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (১ম খন্ড) (প্রাচীন ও মধ্যযুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, প্রথম  
মুদ্রণ নভেম্বর ১৯৯৭

ভট্টাচার্য, নরেন্দ্রনাথ, ধর্ম ও সংস্কৃতিক: প্রাচীন ভারতীয় প্রেক্ষাপট

চক্রবর্তী রণবীর, প্রাচীন ভারতের অর্থনৈতিক ইতিহাসের সন্ধান, আনন্দ পাবলিশার্স, কলকাতা ২০০২

চক্রবর্তী রণবীর, ভারত ইতিহাসের আদি পর্ব, ওরিয়েন্ট লংম্যান, কলকাতা, ২০০৭

সেন সমরেন্দ্রনাথ, বিজ্ঞানের ইতিহাস, শৈব্যা প্রকাশন, ১৯৯৬

শর্মা রামশরণ, ভারতের সামন্ততন্ত্র, (Indian Feudalism), কে পি বাগচি এন্ড কোং, কলকাতা

শর্মা রামশরণ, আদি মধ্যযুগের ভারতীয় সমাজ: সামন্ত-প্রক্রিয়া বিষয়ে এক সমীক্ষা(Early Medieval Indian  
Society: A Study in Feudalisation), ওরিয়েন্ট লংম্যান, ২০০৩

### **CC-3/GE-3 : History of India from 1206 to1707**

I. Foundation, Expansion &consolidation of the Delhi Sultanate; Nobility &Iqta system.

II.Military, administrative &economic reforms under the Khiljis &the Tughlaqs.

III. Bhakti &Sufi Movements.

IV. Provincial kingdoms: Mewar, Bengal, Vijaynagara & Bahamanis.

V. Second Afghan State.

VI. Emergence and consolidation of Mughal State, C.16<sup>th</sup> century to mid 17th century.

VII. Akbar to Aurangzeb: administrative structure-Mansab & Jagirs, State & Religion, Socio-Religious Movements.

VIII. Economy, Society & Culture under the Mughals.

IX. Emergence of Maratha Power.

### References:

- Irfan Habib: The Agrarian System of Mughal India 1556-1707, Oxford University Press, 1999  
M. Athar Ali: Mughal Nobility under Aurangzeb, Dept. of History, Aligarh Muslim University, 1966  
Shireen Moosvi: The Economy of the Mughal Empire Oxford University Press, 2015  
S.A.A. Rizvi: Muslim Revivalist Movements in Northern India during 16th and 17th Centuries  
R.P. Tripathi: The Rise and Fall of the Mughal Empire, 2 vol. Surjeet Publications, 2014  
I. H. Siddiqui: Some Aspects of Afghan Despotism, Three Men Publication, 1969  
Kesvan Veluthat: Political Structure of Early Medieval South India, Orient Blackswan; 2012  
P.J. Marshall: The Eighteenth Century in Indian History. Oxford University Press 2005  
Stewart Gordon, : The Marathas 1600-1818, Cambridge University Press, 1993  
Percy Brown, Islamic Architecture Taraporevala Sons, 1943.

রায় মিহিরকুমার, ভারতের ইতিহাস (তুরক-আফগান যুগ), পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, দ্বিতীয় মুদ্রণ,  
ফেব্রুয়ারী ১৯৯২

হাবিব ইরফান, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, (Economic History of Medieval India: A  
Survey), প্রগ্রেসিভ পাবলিশার্স

হাবিব ইরফান, মধ্যকালীন ভারত ১-৪ খন্ড (Medieval India) কে পি বাগচি এন্ড কোং, কলকাতা

হাবিবুল্লাহ এ বি এম, ভারতে মুসলিম শাসনের প্রতিষ্ঠা ১২০৬-১২৯০, (The Foundation of Muslim Rule in  
India), প্রগ্রেসিভ পাবলিশার্স, কলকাতা

রায় অনিরুদ্ধ ও চট্টোপাধ্যায় রঞ্জাবলী, মধ্যযুগে বাংলার সমাজ ও সংস্কৃতি, কে পি বাগচি এন্ড কোং, কলকাতা  
১৯৯২

রায় অনিরুদ্ধ, মধ্যযুগের ভারতের ইতিহাস : সুলতানি আমল, ওরিয়েন্ট লংম্যান, কলকাতা

করিম আব্দুল, বাংলার ইতিহাস : সুলতানি আমল, ঢাকা

## **CC-4/GE-4 History of India; 1707-1950.**

- I. Interpreting the 18th Century.
- II. Emergence of Independent States & establishment of Colonial power.
- III. Expansion & consolidation of Colonial Power upto 1857.
- IV. Uprising of 1857: Causes, Nature & Aftermath.
- V. Colonial economy: Agriculture, Trade & Industry.

VI.Socio-Religious Movements in the 19th century.

VII. Emergence &Growth of Nationalism with focus on Gandhian nationalism.

VIII. Communalism: Genesis, Growth and partition of India.

IX. Advent of Freedom: Constituent Assembly, establishment of Republic.

**References:**

- Sugata Bose and Ayesha Jalal: Modern South Asia: History, Culture, Political Economy, New Delhi, 1998
- Sekhar Bandyopadhyay From Plassey to Partition, Orient Longman, 2004.
- Barbara D Metcalf and T.R. Metcalf A Concise History of India, Cambridge, 2002
- C.A. Bayly, An Illustrated History of Modern India 1600 - 1947, London 1990
- Sumit Sarkar, Modern India 1885 - 1947, Macmillan, 1983
- Mushirul Hasan, John Company to the Republic: A story of Modern India, Lotus Collection, 2001
- R.P. Dutt, India Today. 1949
- Thomas Metcalf Ideologies of the Raj. Cambridge University Press, 1995
- R. Jeffery, J Masselos, From Rebellion to the Republic. New Delhi : Sterling Publishers, 1990.
- Bipan Chandra: Nationalism and Colonialism. Sangam Books, 1996.
- Urvashi Butalia The Other side of Silence. Duke University Press, 2000
- Francine Frankel India's Political Economy 1947- 1977. Princeton University Press, 1978.
- Paul Brass The Politics of India since Independence. Publisher: Cambridge University Press, 1994
- Lloyd and Susan Rudolph In Pursuit of Laxmi: the Political Economy of the Indian State, Chicago, 1987
- Bipan Chandra, Aditya Mukherjee, India After Independence, Viking, 1999.
- Gail Omvedt Dalits and Democratic Revolution. Dr. Ambedkar and the Dalit Movement in Colonial India. Pakistan Institute of Development Economics, 1994
- Ramachandra Guha The Fissured Land. Oxford University Press, 1992.
- K.G. Subramanian The Living Tradition: Perspectives on Modern Indian Art. Calcutta : Seagull Books, 1987.
- Radha Kumar A History of Doing. New Delhi: Kali for. Women, 1993.

বন্দ্যোপাধ্যায় শেখর, অষ্টাদশ শতকের মুঘল সংকট ও আধুনিক ইতিহাস চিন্তা, কলকাতা, ১৯৮৩

বন্দ্যোপাধ্যায় শেখর, পলাশী থেকে পার্টিশন: আধুনিক ভারতের ইতিহাস, ওরিয়েন্ট লংম্যান, ২০০৪

ভট্টাচার্য্য সব্যসাচী, ঔপনিবেশিক ভারতের অর্থনীতি, কলকাতা, ২০০০

সুনীল সেন, ভারতে কৃষিকার্য ১৭৯৩-১৯৪৭, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৫

চৌধুরী বিনয় ভূষণ, ঔপনিবেশিক আমলে বাংলার কৃষি ইতিহাস, কে পি বাগচি এন্ড কোং, কলকাতা

ইসলাম, সিরাজুল, বাংলার ইতিহাস ঔপনিবেশিক শাসনকার্যামো, চয়নিকা, ঢাকা, ২০০২

চক্রবর্তী মৃণাল, সিরাজ-উদ্-দৌলা, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা, ১৯৮১

রায় রজতকান্ত, পলাশীর ষড়যন্ত্র ও সেকালের সমাজ, আনন্দ পাবলিশার্স, কলকাতা

চৌধুরী সুনীল, পলাশীর অজানা কাহিনী, আনন্দ পাবলিশার্স, কলকাতা

আলি এম আখার, আওরঙ্গজেবের সময়ে মুঘল অভিজাত শ্রেণী(The Mughal Nobility under Aurangzeb) কে পি বাগচি এন্ড কোং, কলকাতা

বন্দ্যোপাধ্যায় শেখর, অষ্টাদশ শতকের মুঘল সংকট ও আধুনিক ইতিহাস চিন্তা, কলকাতা, ১৯৮৩

ভদ্র গৌতম, মুঘল যুগে কৃষি অর্থনীতি ও কৃষক বিদ্রোহ, সুবর্ণরেখা, কলকাতা, ১৯৮৩

চন্দ্র সতীশ, মুঘল দরবারে দল ও রাজনীতি, (Parties and politics at the Mughal Court 1707-1740) কে পি বাগচি এন্ড কোং, কলকাতা

চৌধুরী বিনয় ভূষণ ও অন্যান্যরা, বাংলার কৃষি সমাজের গঠন, কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মধ্যকালীন ভারত, খন্ড ১-৪, কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মুঘল সাম্রাজ্য ও তার পতন- একটি সমীক্ষা, পশ্চিমবঙ্গ ইতিহাস সংসদ, ২০০০

হাবিব ইরফান, মুঘল ভারতের কৃষি ব্যবস্থা, (The Agrarian System of Mughal India(1556-1707)), কে পি বাগচি এন্ড কোং, কলকাতা

হাবিব ইরফান, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, (Economic History of Medieval India: A Survey), প্রগ্রেসিভ পাবলিশার্স, কলকাতা, ২০০৯

হাবিব ইরফান, ভারতের ইতিহাস প্রসঙ্গ: মার্কসীয় চেতনার আলোকে(Essays in Indian History: Towards a Marxist Perception), ন্যাশনাল বুক এজেন্সি, কলকাতা, ১৯৯৯

রায় অনিরুদ্ধ, মধ্যযুগের ভারতের অর্থনৈতিক ইতিহাস, ১২০০-১৭৫৭, প্রগ্রেসিভ পাবলিশার্স, কলকাতা

রায় অনিরুদ্ধ, মুঘল যুগের অর্থনৈতিক ইতিহাস, কে পি বাগচি এন্ড কোং, কলকাতা

সরকার জগদীশ নারায়ণ, মুঘল অর্থনীতি: সংগঠন এবং কার্যক্রম, (Mughal Economy : Organisation and Working) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা ১৯৯১

সিদ্দিকী নোমান আহমেদ, মোঘল রাজত্বে ভূমিরাজস্ব পরিচালন ব্যবস্থা (১৭০০ – ১৭৫০)(Land Administration Under the Mughals (1700 -1750)) পার্ল পাবলিশার্স, কলকাতা, ১৯৮০

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস (২য় খন্ড)

(মুঘল ও ব্রিটিশ ভারত, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, কলকাতা ১৯৯৮

চট্টোপাধ্যায় রত্নাবলী, মুঘল যুগের দরবারি চিত্রকলা, থীমা, কলকাতা

বন্দ্যোপাধ্যায় শেখর, পলাশি থেকে পার্টিশান (From Plassey to Partition), ওরিয়েন্ট লংম্যান

দেশাই এ আর, ভারতীয় জাতীয়তাবাদের সামাজিক পটভূমি, (Social Background to Indian Nationalism)

কে পি বাগচি এন্ড কোং, কলকাতা

জয়া চ্যাটার্জী, বাংলা ভাগ হল: হিন্দু সাম্প্রদায়িকতা ও দেশ-বিভাগ, ১৯৩২-১৯৪৭

(Bengal Divided : Hindu Communalism and Partition 1932 – 1947) এল আলমা পাবলিকেশনস, কলকাতা, ২০০৩

দত্ত রজনী পাম, আজিকার ভারত (India Today)

সরকার সুশোভন, বাংলার রেনেসাঁস, (Notes on Bengal Renaissance), দীপায়ন, কলকাতা

ত্রিপাঠী অমলেশ, ভারতের মুক্তিসংগ্রামে চরমপন্থী পর্ব, (The Extremist Challenge) আনন্দ পাবলিশার্স, কলকাতা

মুখোপাধ্যায় হীরেন্দ্রনাথ, ভারতবর্ষের ইতিহাস(২য় খন্ড) (মুঘল ও ব্রিটিশ ভারত) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ৪র্থ মুদ্রণ, ১৯৯৮

সুর নিখিল, ভারতীয় জাতীয়তাবাদী আন্দোলনের পটভূমি, পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৮৯

চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৮৫৮-১৯২০) (১ম খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৯৮

চট্টোপাধ্যায় প্রণবকুমার, আধুনিক ভারত (১৯২০-১৯৪৭) (২য় খন্ড) পশ্চিমবঙ্গ রাজ্য পুস্তক পর্ষদ, ১৯৯৯  
সেন সুনীল, ভারতে কৃষিসম্পর্ক(১৭৯৩-১৯৪৭)(Agrarian Relations in India (1793-1847)) পশ্চিমবঙ্গ  
রাজ্য পুস্তক পর্ষদ, ১৯৮৫

## **DSE Discipline Specific Elective (Any Two):**

### **DSE –A -1: National Liberation Movements in 20th century World**

I.Nationalism: Theory and Practice.

II. Nature of Imperialism and colonialism

III. National Movements in Nigeria, Kenya, Congo, Angola  
&South Africa.

IV.China between 1911-1949:Revolution of 1911,May Fourth Movement and Cultural  
Revolution under Mao Tse Tung. Indonesian Revolution 1945-1949.

V. National Movement in India.

#### **References:**

Lucian Bianco, Origins of the Chinese Revolution, 1915-1946. Stanford University Press, 1971.

A.J.Temu & Roger Owen eds , Studies in the theory of Imperialism,1970.

E.F.Penrose, ed., European Imperialism the partition of Africa,1980.

Milton Osborne, Southeast Asia: An Introductory History. 1995

Sumit Sarkar, Modern India, Macmillan, 1984.

ত্রিপাঠী অমলেশ, স্বাধীনতা সংগ্রামে ভারতের জাতীয় কংগ্রেস, আনন্দ পাবলিশার্স, কলকাতা

চন্দ্র বিপান, আধুনিক ভারতঃ ঔপনিবেশিকতাবাদ ও জাতীয়তাবাদ(Nationalism and Colonialism), কে পি  
বাগচি এন্ড কোং, কলকাতা

চন্দ্র বিপান এবং অন্যান্য, ভারতের স্বাধীনতা সংগ্রাম, (India's Struggle for Independence) কে পি বাগচি  
এন্ড কোং, কলকাতা

চন্দ্র বিপান এবং অন্যান্য, ভারতবর্ষ – স্বাধীনতার পরে, (India after Independence), আনন্দ পাবলিশার্স,  
কলকাতা

## **DSE- A -2: Some Aspects of European History: C.1780-1945**

I.The French Revolution: Genesis Nature & Consequences

II.Napoleonic Era and aftermath.

III.Revolutions of 1830 & 1848.

IV.Unification of Italy & Germany.

V.Social and economic Changes.

VI. Imperialist Conflicts: World War I

VII.Rise of Fascism and Nazism.

VIII. Origins of World War II

### **References:**

E.J. Hobsbawm: The Age of Revolution. London : Weidenfeld & Nicolson, 1962.

Lynn Hunt: Politics, Culture and Class in the French Revolution. Berkeley: University of California Press, 1984.

Andrew Porter, European Imperialism, 18760 -1914 (1994).

E.J. Hobsbawm, The Age of Extremes, 1914 - 1991, New York: Vintage, 1996

Carter V. Findley and John Rothey, Twentieth-Century World,Boston: Houghton-Mifflin, 5th ed.  
2003



## **DSE- B-1: Patterns of Capitalism in Europe: C.16TH Century to early 20th Century**

I.Definitions & Concepts

II.Commercial Capitalism: 1500-1700

III.Industrial Revolution in England: Causes &Nature

IV.Industrial Capitalism in France: Genesis & Nature

V. Growth of Industries in Germany

VI.Impact of Industrial Revolution on European Society, Polity & Economy.

### **References:**

Jerry Müller, *The Mind &the Market*, Knopf Doubleday Publishing Group, 2007

Karl Polanyi, *The Great Transformation : The Political and Economic Origins of Our Time.*  
Boston: Beacon Press 1944.

Joseph Schumpeter, *Capitalism, Socialism &Democracy* New York: Harper & Row, 1942.

Wallerstein, *World System Analysis: An Introduction*, 2004

Cipolla Carlo, M, *Fontana Economic History of Europe*, VOL I&II Collins, 1973.

Christopher Hill, *From Reformation to Industrial Revolution*, Weidenfeld and Nicolson, 1967

Jan De Vries, *The Industrial Revolution &the Industrious Revolution*, 1994

## **DSE-B-2: Some aspects of Society & Economy of Modern Europe: 15<sup>th</sup> – 18<sup>th</sup> Century**

I: Historiographical Trends

II. Feudal Crisis: Main strands

III. Renaissance: Origin, Spread & Dominant Features

IV. European Reformation: Genesis, nature & Impact

V. Beginning of the era of colonization: motives; mining and plantation; the African slaves

VI. Economic developments of the sixteenth century; Shift of economic balance from the Mediterranean to the Atlantic

VII. Transition from Feudalism to Capitalism: Industrial Revolution in England

### **References:**

J H Plumb, *The Pelican Book of the Renaissance*, Penguin, 1982

G. R. Elton, *Reformation Europe 1517, 1559*, Wiley, 1999

Ralph Davis, *The Rise of the Atlantic Economies*, New York, 1973

Arvind Sinha, *Europe in Transition*, Delhi, 2010

Rodney Hilton, *The Transition from Feudalism to Capitalism*, Delhi, 2006.

Fernand Braudel, *Civilization and Capitalism*, Vols. I, II, III, California, 1992

Butterfield, Herbert. *The origins of modern science*. Vol. 90507. Free Press, 1997

গৌতম চট্টোপাধ্যায় সম্পাদিত: দুশো বছরের আলোকে, পশ্চিমবঙ্গ ইতিহাস সংসদ, ১৯৮৯  
চক্রবর্তী, ফরাসী বিপ্লব, পশ্চিমবঙ্গ পুস্তক পর্ষদ, কলকাতা  
চক্রবর্তী সুভাষ রঞ্জন, ইউরোপের ইতিহাস, পশ্চিমবঙ্গ পুস্তক পর্ষদ, কলকাতা, ১৯৮৬  
জ্যাকসন টি এ, ফরাসী বিপ্লব – দশ দিগন্ত, কে পি বাগচি এন্ড কোং, কলকাতা ২০০৪  
টমসন ডেভিড, বিশ্ব ইতিহাসের প্রেক্ষাপটে ইউরোপ, ১ম খন্ড (১৭৮৯-১৮৫০), ২য় খন্ড (১৮৫১-১৯১৪)  
প্রগ্রেসিভ পাবলিশার্স, কলকাতা ২০০২ ও ২০০৩  
রায় সিদ্ধার্থ গুহ, আধুনিক ইউরোপ: ফরাসী বিপ্লব থেকে দ্বিতীয় বিশ্বযুদ্ধ, প্রগতিশীল প্রকাশক, কলকাতা, ২০১৩

## **Skill Enhancement Elective Course (SEC) Credits,-2**

### **SEC-A- 1: Historical Tourism: Theory &Practice**

#### **I. Defining Heritage**

Art &Architecture in India: An overview:

Field Work: Visit to historical sites &Museums

#### **II. Understanding Built Heritage:**

Stupa Architecture

Temple Architecture

Indo Persian Architecture, Forts, Palaces, Mosques

Colonial Architecture

Present day structures

#### **III. Field Work: Visit to site &Conducting of research**

#### **IV. Modalities of conducting tourism**

#### **References:**

Sunil Kumar, The Present in Delhi's Past, Delhi, Gyan Publishing House, 2002

Peter Howard, Heritage: Management, Interpretation, Identity, and London, 2003

V.S Agarwal, Indian Art, Varanasi, Prithvi Prakasahan, 1972

Percy Brown, Indian Architecture, Bombay, D.B.Taraporevala Sons &Co, 1940

James Harle, The Art & Architecture of the Indian Subcontinent, Harmondsworth, Penguin, 1988

S.K.Bhowmik, Heritage Management: Care, Understanding & Appreciation of Cultural Heritage, Jaipur, 2004.

### **SEC-B -1: Museums &Archives in India**

#### **I. Definitions**

#### **II. History of setting up of Museums and Archives: Some case Studies**

III. Field Work; Studying of structures & Functions

IV. Training & Employment

**References:**

G. Edson & Dean David, Handbook for Museum, London, Routledge, 1986  
John Ridener, From Folders to Post Modernism: A Concise History of Archival Theory, 2009  
Roychowdhury, Madhuparna. Displaying India's Heritage : Archaeology and the Museum Movement in Colonial India. Delhi: Orient Blackswan 2015  
Sengupta, S. Experiencing History Through Archives. Delhi: Munshiram Manoharlal. 2004.

**SEC-A -2: Indian History & Culture**

**I. Environment; Culture, Tradition & Practices:**

- Historical overview
- Oral & codified information on medicinal Plants
- Water & Water Bodies
- Fieldwork

**II. Urbanization & Urbanism:**

- Issues of settlements & Landscapes
- Social differentiations
- Communication networks

**III. Social inequality & Gender:**

- Status within Households: An overview
- Present context
- Issues of Violence
- Employment, distribution of resources

**IV. Cultural Heritage:**

- Main components
- Built Heritage
- Historical Tourism

**V. Cultural Forms & Cultural Expressions:**

- Performing Arts
- Fairs & Festivals
- Fieldwork

**References:**

Indu Banga, ed. The City in Indian History: Urban Demography, Society & Polity, Delhi, Manohar, 1991  
Koch, E. Mughal Art & Imperial Ideology, New Delhi ; New York : Oxford University Press, 2001.  
Radha Kumar, History of Doing: An Illustrated Account of Movements for Women's Rights & Feminism in India 1880-1990, Zubaan, 2007  
V. Vasudev, Fairs & Festivals, Incredible India Series, 2007  
V. Singh, The Human Footprint on Environment: Issues in India, New Delhi, and Macmillan, 2012

B. Parikh, Composite Culture in a multicultural Society, Delhi, NBT, 2007  
N. Mehta, Introduction: Satellite Television, Identity & Globalization in Contemporary India in  
N. Mehta, ED, Television in India, New York, Routledge, 2008

## **SEC-B- 2: Orality and Oral Culture in India**

I. Defining orality

II. History & Historiography of Orality

III. Life Histories: Sociological Aspects

IV. Research Methodologies

V. Documentation: Written & Visual

### **References:**

H. Roberts. Ed. Doing Feminist Research, London: Routledge & Kegan Paul, 1981  
John Miles Foley, Oral Formulaic-Theory: An Introduction & Annotated Bibliography, New York & London: Garland, 1985  
M.F.D. Knowledge & Control, London, 1971  
  
Prasad M. Mahadeva, Ideology of the Hindi Film: A Historical Construction. Delhi: OUP, 1998  
Srirupa Roy, 'The Post Colonial State & Visual Representations of India' Contributions to Indian Sociology, 2006, 36, 1&2: 233-263  
  
Stephen Humphries: The Handbook of Oral History: recording life stories. University of Michigan : Inter-Action Inprint, 1984.  
  
Veena Das, ed, Mirrors of Violence: Communities, Riots & Survivors in South Asia, Delhi, OUP, 1990

-----



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

<u>Sl. No.</u>	<u>Subject</u>	<u>Sl. No.</u>	<u>Subject</u>
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

### Semester-wise Course for B.A. (Honours)

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
<b>Core Course (CC)</b>	2TH+2TU CC-1&2	2TH+2TU CC-3&4	3TH+3TU CC-5,6&7	3TH+3TU CC-8,9&10	2TH+2TU CC-11&12	2TH+2TU CC-13&14
<b>Generic Elective (GE)</b>	1TH+1TU GE-1	1TH+1TU GE-2	1TH+1TU GE-3	1TH+1TU GE-4		
<b>Discipline Specific Elective (DSE)</b>					2TH+2TU DSE-A(1) B(1)	2TH+2TU DSE-A(2) B(2)
<b>Ability Enhancement Compulsory Course (AECC)</b>	1TH+0TU AECC-1	1TH+0TU AECC-2				
<b>Skill Enhancement Course (SEC)</b>			1TH+0TU SEC-A(1)	1TH+0TU SEC-B(2)		
<b>Total No. of Courses and Marks</b>	4 x 100 = 400	4 x 100 = 400	5 x 100 = 500	5 x 100 = 500	4 x 100 = 400	4 x 100 = 400
<b>Total Credits</b>	20	20	26	26	24	24

TH = Theory T = Tutorial

- ❖ CC/GE/DSE : Each theory and Tutorial Course have 5 and 1 Credit(s) respectively
- ❖ GE : Covering two subjects with two courses each; any subject in any semester; CC of a different subject in general course is to be treated as GE for Honours Course
- ❖ DSE/SEC : Group (A&B) for specified semesters
- ❖ AECC/SEC : Each Course has 2 Credits
- ❖ AECC-1 : Communicative English / MIL; AECC-2 : Environmental Studies





## University of Calcutta

### BA (Honours)-CBCS Syllabus in Philosophy, 2018

- A. Core Courses [Fourteen courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 84 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]
- B. Discipline Specific Elective[Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits(Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]
- C. Generic Elective [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]
- Core courses of 'General Syllabus' will be treated as Generic Elective of 'Honours Syllabus'.
- D. Skill Enhancement [Two courses; Each course: 2 credits (No Tutorial segment). Total: 04 credits (2×15weeks =30)]

- Each course (CC & DSE )carries 80 marks and Minimum 80 classes.
- 65 marks for theoretical segment: 55 marks for descriptive questions + 10 marks for 1 mark questions.
- Skill Enhancement course carries 80 marks and minimum 50 classes: 80 marks for theoretical segment, there is no tutorial segment.
- Question Pattern for descriptive segment of 55 marks: 5 short questions out of 8 (5x5 = 25) + 2 questions out of 4(15 x 2 = 30).
- 15 marks for tutorial [The topics (within the syllabus) are to be decided by the concerned faculty of respective colleges.]

### IMPORTANT NOTES:

- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.
- The format is subject to the common structural CBCS format of the University.

- The Skill enhancement course, based on the UGC Guidelines, have the common goal of developing specific skills of students of the discipline for better employment opportunities.

## **Core Course**

### **Semester 1**

PHI-A-CC-1 Indian philosophy - I

PHI-A-CC-2 History of western Philosophy - I

### **Semester 2**

PHI-A-CC-3 Indian philosophy - II

PHI-A-CC-4 History of Western Philosophy- II

### **Semester 3**

PHI-A-CC- 5 Philosophy of Mind

PHI-A-CC-6 Social and Political philosophy

PHI-A-CC-7 Philosophy of Religion

### **Semester 4**

PHI-A-CC-8 Western Logic – I

PHI-A-CC-9 Western Logic – II

PHI-A-CC-10 Epistemology and Metaphysics (Western)

### **Semester 5**

PHI-A-CC-11 Indian Logic and Epistemology – I

PHI-A-CC-12 Ethics (Indian)

### **Semester 6**

PHI-A-CC-13 Indian Logic and Epistemology – II

PHI-A-CC-14 Ethics (Western Ethics)

## **Discipline Specific Elective :**

### **Semester 5**

**PHI-A-DSE-A(1)**( Any one from the following options)

- a) Western logic – I
- b) Normative and Meta Ethics
- c) Philosophy of language (Indian)

### **PHI-A-DSE-B(1)**

(Any one text from the following texts)

- a) An Enquiry Concerning Human Understanding – D. Hume
- b) The Problems of Philosophy – B. Russell
- c) Vedāntasāra- Sadananda Yogindra Saraswati
- d) Śrīmadbhagavadgīta

## **Semester 6**

**PHI-A-DSE-A(2)**( Any one from the following options)

- a) Western Logic -II
- b) Applied Ethics
- c) Philosophy of Language (Western)

**PHI-A-DSE-B(2)**

(Any one philosophical system from four philosophical systems of contemporary Indian thought)

- a) Swami Vivekananda
- b) Rabindranath Tagore
- c) Sri Aurobindo
- d) M.K. Gandhi

## **Skill Enhancement Elective Course :**

### **Semester 3**

**PHI-A-SEC-A** (Any one from the following options)

- a) Logical Reasoning and Application: Indian and Western
- b) Man and Environment

### **Semester 4**

**PHI-A-SEC-B**( Any one from the following options)

- a) Emerging Trends of Thought
- b) Philosophy of Human Rights

## **SEMESTER-I**

### **Core Course**

**PHI-A-CC-1**

**Indian Philosophy – I (6 Credits per week)**

- a) Introduction: Division of Indian Philosophical Schools: Āstika and Nāstika.
- b) Cārvāka School—Epistemology, Metaphysics, Ethics.
- c) Jainism—Concept of Sat, Dravya, Paryāya, Guṇa. Anekāntavāda, Syādvāda and Saptabhaṅginaya.
- d) Buddhism— Four noble Truths, Theory of Dependent Origination (Pratītyasamutpāda), Definition of Reality (Arthakriyākāritvamsattvam), Doctrine of Momentariness, (Kṣanabhaṅgavāda), Theory of no-soul (Nairātmyavāda), Four Schools of Buddhism (Basic tenets).
- e) Nyāya —Pramā and Pramāṇa, Pratyakṣa (Definition), Sannikarṣa, Classification of Pratyakṣa: Nirvikalpaka, Savikalpaka, Laukika, Alaukika.
- f) Anumiti, Anumāna (Definition), vyāpti, parāmarśa, Classification of Anumāna: pūrvavat, śesavat, smānyatodṛṣṭa, kevalānvayī, kevalavyātirekī, anvayavyātirekī, svārthānumāna, parārthānumāna, Upamāna (definition), Śabda (definition).
- g) Vaiśeṣika—Seven Padārthas, dravya, guṇa, karma, sāmānya, viśeṣa, samavāya, abhāva.

### **Suggested Readings:**

#### **English:**

- Outlines of Indian Philosophy: M. Hiriyanna
- A Critical Survey of Indian Philosophy: C.D. Sharma
- An Introduction to Indian Philosophy: D. M. Dutta & S.C. Chatterjee
- Classical Indian Philosophy: J.N. Mohanty
- History of Indian Philosophy: S.N. Dasgupta
- Indian Philosophy (Vol. I & II): S. Radhakrishnan
- Indian Philosophy (Vol. I & II): J.N. Sinha
- Studies on the Carvaka/Lokayata: Ramakrishna Bhattacharya
- The Central Philosophy of Buddhism: T.R.V. Murti
- Yogacara Idealism: A.K. Chatterjee
- An Introduction to Madhyamika Philosophy: Jaydev Singh
- Reflections on Indian Philosophy: K.P. Sinha
- Philosophy of Jainism: K.P. Sinha
- Nyaya Theory of Knowledge: S.C. Chatterjee
- Six Ways of Knowing: D.M. Dutta
- Nyaya-Vaisesika Metaphysics: Sadananda Bhaduri

#### **Bengali:**

- Bharatiya Darshan: Debabrata Sen
- Bharatiya Darshan: Nirodbaran Chakraborty
- Sayan Madhaviya Sarva Darshan Samgraha: Satyajyoti Chakraborti
- Lokayata Darshan: Debiprasad Chattopadhyay

- Carvakacarca: Ramakrisna Bhattacharya
- Carvaka Darshan: Panchanan Sastri
- Carvaka Darshan: Amit Kumar Bhattacharya
- Bauddha Dharma O Darshan: Swami Vidyaranya
- Bauddha Darshan: Panchanan Sastri
- Gautama Buddher Darshan o Dharma: Sukomol Choudhury
- Bauddha Darshan: Amit Kumar Bhattacharya
- Ksanabhangavada: Bidhubhusan Bhattacharya
- Jainadarshaner Digdarshan: Satindra Chandra Bhattacharya
- Nyaya Darshan: Phanibhushan Tarkavagisha
- Nyaya Paricaya: Phanibhushan Tarkavagisha
- Nyaya-Vaisesika Darshan: Karuna Bhattacharya
- Nyaya Tattva Parikrama: Kalikrishna Bandyopadhyaya

### **Core Course**

#### **PHI-A-CC-2 History of Western Philosophy – I (6 Credits per week)**

- a) Pre Socratic Philosophy: Thales, Heraclitus, Parmenides, Empedocles, Anaxagoras, Democritus, Protagoras.
- b) Plato: Theory of Knowledge, Theory of Forms.
- c) Aristotle : Critique of Plato's theory of Forms, Doctrine of four causes, Form and Matter.
- d) St. Thomas Aquinas: Faith and Reason, Essence and Existence.
- e) Descartes: Cartesian method of doubt, Cogito ergo sum, Criterion of truth, Types of ideas, Proofs for the existence of God, Mind- body dualism , Proofs for the existence of the external world.
- f) Spinoza: Doctrine of substance, Attributes and Modes, Existence of God, Pantheism ,Three orders of knowing.
- g) Leibniz: Monads, Truths of reason, Truths of facts, Innateness of ideas, Some metaphysical principles : Law of Identity of indiscernibles, Law of sufficient reason, Law of continuity, Doctrine of Pre-established harmony.

### **Suggested Readings:**

#### **English:**

- The Greek Philosophers from Thales to Aristotle: W. K. C. Guthrie
- A History of Western Thought : G. Skirbekk & N. Gilje
- A Critical History of Greek Philosophy: W.T. Stace
- Encyclopedia of Philosophy: P. Edwards (ed.)
- A History of Philosophy: F. Copleston, vols. I, II, IV, V, VI
- History of Western Philosophy: B. Russell
- History of Modern Philosophy: R. Falckenberg
- A Critical History of Modern Philosophy: Y.H. Masih

- A History of Philosophy: F. Thilly
- A History of Modern Philosophy: W.K. Wright
- A Critical History of Western Philosophy: D.J. O'Connor
- A History of Philosophy from Descartes to Wittgenstein: R. Scruton
- The Fundamental Questions of Philosophy: A.C. Ewing
- A Brief History of Western Philosophy: A. Kenny
- The Works of Descartes: Haldane & Ross (eds.)
- Descartes: The Project of Pure Enquiry: B. Williams
- Descartes: A. Kenny
- Spinoza: Leon Roth
- Leibniz: An Introduction to His Philosophy: N. Rescher
- The Rationalists: J. Cottingham

### **Bengali:**

- Paschatya Darshaner Itihas: Tarak Candra Roy (pratham o dvitiya khanda)
- Paschatya Darshaner Itihas: Kalyan Chandra Gupta
- Paschatya Darshaner Itihas: Susanta Chakraborty
- Paschatya Darshaner Itihas: Samarendra Bhattacharya (pratham o dvitiya khanda)
- Paschatya Darshaner Itihas (Plato o Aristotle): N.B. Chakraborty
- Paschatya Darshaner Itihas (Plato o Aristotle): Debabrata Sen
- Paschatya Darshaner Itihas (Adhunik Yuga-Yuktivada (Descartes), Spinoza, Leibniz): Chandrodaya Bhattacharya

## **SEMESTER 2**

### **Core course**

### **PHI-A-CC-3 Outlines of Indian Philosophy – II (6 Credits per week)**

- a) Sāmkhya—Satkāryavāda, Nature of Prakṛti, its constituents and proofs for its existence. Nature of Puruṣa and proofs for its existence, plurality of puruṣas, theory of evolution.
- b) Yoga—Citta, Cittavṛtti, Cittabhūmi. Eight fold path of Yoga, God.
- c) Mīmāṃsā (Prābhakara and Bhāṭṭa) : Anvitāvidhānvāda and Abhihitānvayavāda, Arthāpatti and Anupalabdhi as sources of knowledge
- d) Advaita Vedānta—Sankara's view of Brahman, Saguṇa and Nirguṇa Brahman, Three grades of Sattā: prātibhāsika, vyavahārika and pāramārthika, Jīva, Jagat and Māyā.
- e) Viśiṣṭādvaita—Rāmānuja's view of Brahman, Jīva, Jagat. Refutation of the doctrine of Māyā.

### **Suggested Readings:**

**English:**

- Outlines of Indian Philosophy: M. Hiriyanna
- A Critical Survey of Indian Philosophy: C.D. Sharma
- An Introduction to Indian Philosophy: D. M. Dutta & S.C. Chatterjee
- Classical Indian Philosophy: J.N. Mohanty
- History of Indian Philosophy: S.N. Dasgupta
- Indian Philosophy (Vol. I & II): S. Radhakrishnan
- Indian Philosophy (Vol. I & II): J.N. Sinha
- Six Ways of Knowing: D.M. Dutta
- The Doctrine of Maya: A.K. Roychoudhuri
- Self and Falsity in Advaita Vedanta: A.K. Roychoudhuri
- The Word and the world: Bimal Krishna Matilal
- Logic, Language and Reality: Bimal Krishna Matilal

**Bengali:**

- Bharatiya Darshan: Debabrata Sen
- Bharatiya Darshan: Nirodbaran Chakraborty
- Sayan Madhaviya Sarva Darshan Samgraha: Satyajyoti Chakraborti
- Samkhya Darshan: Bhupendranath Bhattacharya
- Samkhya Darshaner Vivarana: Bidhubhushan Bhattacharya
- Samkhyamata Samiksa: Yogendranath Bagchi
- Samkhya Tattva Kaumudi: Narayan Chandra Goswami
- Samkhya-Patanjal Darshan: Kanakprabha Bandyopadhyaya
- Patanjal Darshan: Purnachandra Vedantachanchu
- Purva Mimamsa Darshan: Sukhamoy Bhattacharya
- Vedanta Darshan: Roma Choudhury
- Vedanta Darshan: Advaitavada: Ashutosh Sastri
- Mayavada: Pramatha Nath Tarkabhushan
- Vedanta Darshan: Swami Vidyaranya

**Core Course****PHI-A-CC-4 History of Western Philosophy – II (6 Credits per week)**

- a) Locke : Refutation of innate ideas, The origin and formation of ideas, Simple and Complex ideas, Substance, Modes and Relations, Nature of knowledge and its degrees, Limits of knowledge, Primary and Secondary qualities, Representative Realism.
- b) Berkeley: Refutation of Abstract ideas. Criticism of Locke's distinction between Primary and Secondary qualities, Immaterialism, *Esse-est-percipi*, Role of God.
- c) Hume: Impression and ideas, Association of ideas, Distinction between Judgements concerning Relations of Ideas and Judgements concerning Matters of fact, Theory of causality, Theory of Self and Personal Identity, Scepticism.

- d) Kant : Conception of Critical Philosophy, Distinction between A priori and A posteriori Judgements, Distinction between Analytic and Synthetic Judgements. Synthetic A priori Judgements, General problem of the Critique, Copernican Revolution in Philosophy ;Transcendental Aesthetic : Space & Time—Metaphysical & Transcendental expositions of the Ideas of Space & Time.

### **Suggested Readings:**

#### **English:**

- The Greek Philosophers from Thales to Aristotle: W. K. C. Guthrie
- A Critical History of Greek Philosophy: W.T. Stace
- Encyclopedia of Philosophy: P. Edwards (ed.)
- A History of Philosophy: F. Copleston, vols. I, II, IV, V, VI
- History of Western Philosophy: B. Russell
- History of Modern Philosophy: R. Falckenberg
- A Critical History of Modern Philosophy: Y.H. Masih
- A History of Philosophy: F. Thilly
- A History of Modern Philosophy: W.K. Wright
- A Critical History of Western Philosophy: D.J. O'Connor
- A History of Philosophy from Descartes to Wittgenstein: R. Scruton
- The Fundamental Questions of Philosophy: A.C. Ewing
- A Brief History of Western Philosophy: A. Kenny
- An Essay Concerning Human Understanding: J. Locke
- John Locke: R. Aron
- Berkeley: G. Pitcher
- The Works of George Berkeley: T.E. Jessop & A.R. Luce (eds.) 8 Vols
- An Enquiry Concerning Human Understanding-D. Hume: J. N. Mohanty (ed)
- A Treatise on Human Nature: D. Hume
- Locke, Berkeley, Hume: J. Bennett
- Locke, Berkeley, and Hume: C.R. Morris
- A Critique of Pure Reason-Immanuel Kant: N.K. Smith(tr. & ed.)
- Kant's Metaphysics of Experience: H.J. Paton Vols I & II
- The Philosophy of Kant: J. Kemp
- Kant: Paul Guyer
- A Handbook to Kant's Critique of Pure Reason: Rashvihar Das
- Kant: S. Körner
- Kant: Allen W. Wood
- Lectures on Kant's Critique of Pure Reason: J.N. Mohanty

#### **Bengali:**

- Paschatya Darshaner Itihas: Tarak Candra Roy (pratham o dvitiya khanda)
- Paschatya Darshaner Itihas: Kalyan Chandra Gupta
- Paschatya Darshaner Itihas: Susanta Chakraborty



- Paschatya Darshaner Itihas: Samarendra Bhattacharya (pratham o dwitiya khanda)
- Paschatya Darshaner Itihas(Plato o Aristotle): N.B. Chakraborty
- Paschatya Darshaner Itihas(Plato o Aristotle): Debabrata Sen
- Paschatya Darshaner Itihas:Ikshanvada(Locke,Berkeley,Hume): Chandrodaya Bhattacharya
- Paschatya Darshaner Itihas:(Locke,Berkeley,Hume): N.B. Chakraborty
- Hume-er Enquiry-Ekti Upasthapan: Ramaprasad Das
- Kanter Darshan-Tattva o Prayog: Prahlad Kumar Sarkar (ed.)
- Kanter Darshan:Rasvihari Das
- Kanter Shuddha Prajnar Bichar: Mrinal Kanti Bhadra

### **SEMESTER -3**

#### **Core Course**

#### **PHI-A-CC-5-Philosophy of Mind ( 6 Credits per week)**

- a) Psychology: Definition, Nature and Scope.
- b) Methods of Psychology: Introspection, Extrospection, Experimental Methods—variables—dependent & independent, Controls in experiment, Limitations of experimental method.
- c) Sensation and perception: Nature of sensation, Nature of perception, Relation between sensation and perception, Gestalt theory of perception. Illusion and Hallucination.
- d) Learning: Theories of Learning—Trial and error theory, Thorndike's laws of learning, Gestalt theory, Pavlov's theory of conditioned response, B.F. Skinner's theory of Operant Conditioning (reinforcement, extinction, punishment).
- e) Philosophical Theories of Mind: Interactionism, Double-aspect theory, Philosophical Behaviorism, Materialism- mind-brain identity theory, The Person theory (Strawson).
- f) Consciousness: Levels of mind—Conscious, Sub-conscious, Unconscious, Proofs for the existence of Unconscious, Freud's theory of Dream.
- g) Intelligence : Measurement of intelligence, IQ, Measurement of IQ, Binet-Simon test.
- h) Personality: Types, Factors and Traits of Personality.

#### **Suggested Readings:**

##### **English:**

- A Textbook of Psychology: Pareshnath Bhattacharya
- Introduction to Psychology: G.T. Morgan, R. A. King Jr.
- A Modern Introduction to Psychology: Rex Knight & M. Knight
- A Manual of Psychology: G.F. Stout

- Psychology: Woodworth & Marquis
- Science and Human Behaviour: B.F. Skinner
- About Behaviorism: B.F. Skinner
- General Psychology: G.D. Boaz
- General Psychology: G. Murphy
- Psychology: W. James
- A Textbook of Psychology: E.B. Titchener
- Principles of Psychology: W. James
- Introduction to Psychology: N.L. Muna
- A Materialist Theory of Mind: D.M. Armstrong (Ch.s 1,5,& 6)
- Philosophy of Mind: J. Heil
- Philosophy of Mind: J. Shaffer (Ch.s 2,3&4)
- An Introduction to Philosophy of Mind: C.J. Lowe (Ch.s 2&3)

### **Bengali:**

- Monovidya: Priti Bhushan Chattopadhyay
- Monovidya: Pareshnath Bhattacharya
- Monovidya: Ira Sengupta
- Monovidya: Samarendra Bhattacharya
- Monosamiksha: M. N. Mitra O Pushpa Mishra
- Monodarshan-Sarirvada O Tar Vikalap: M. N. Mitra O P. Sarkar (Sampadito)
- Monovijñana Prasanga: Saradindu Bandyopadhyay
- Adhunik Monovijñana: Ira Sengupta
- Shikshashrayi Monovidya: Sushil Roy
- Monodarshan: Arabinda Basu O Nibedita Chakraborty

### **Core Course**

#### **PHI-A-CC-6-Social and Political Philosophy (6 Credits per week)**

- a) Nature and Scope of i) Social Philosophy ii) Political Philosophy  
iii) Relation between Social and Political Philosophy.
- b) Primary concepts: Society, community, association, institution, family:  
nature, different forms of family, role of family in the society.
- c) Social Class and Caste: Principles of class and caste, Marxist conception  
of class, Varṇāśrama dharma.
- d) Theories regarding the relation between individual and society:  
i) Individualistic theory  
ii) Organic theory  
iii) Idealistic theory
- e) Secularism—its nature, Secularism in India.
- f) Social Change: Nature, Relation to social progress, Marx-Engles on  
social change, Gandhi on social change.

- g) Political Ideals: Nature of Democracy and its different forms, Direct and Indirect democracy, Liberal democracy, Democracy as a political ideal, Socialism: Utopian and Scientific, Anarchism.

### **Suggested Readings:**

#### **English:**

- Philosophy: A Guide through the subject: A.C. Grayling (Ed.)
- Individuals: An Essay in Descriptive Metaphysics: P.F. Strawson
- The Concept of Person and Other Essays: A.J. Ayer
- Fundamentals of Sociology: P. Gisbert
- Outlines of Social Philosophy: J.S. Mackenzie
- Problems of Political Philosophy: D.D. Raphael
- Society: R.M. MacIver & C.H. Page
- Sociology: M. Ginsberg
- Sociology: Tom Bottomore
- Sociology: S.N. Shankar Rao
- Sociology: D.C. Bhattacharya
- Sociology: P.B. Kar
- Guide to Modern Thought: C.E.M. Joad
- Introduction to Modern political Theory: C.E.M. Joad
- The Evolution of Political Philosophy of Gandhi: Buddhadeb Bhattacharya
- Social and Political Thought of Gandhi: Jayantanuja Bandyopadhyay
- The Philosophy of Mahatma Gandhi: D.M. Dutta
- The Philosophy of Sarvodaya: K.S. Bharathi
- Communist Manifesto: Karl Marx & Frederick Engels
- Socialism: Utopian and Scientific: F. Engels
- Open Society and Its Enemies: Karl Popper
- The Open Philosophy and the Open Society: M. Cornforth
- Religion in India: T.N. Madan (ed.)
- Religion and Society: S. Radhakrishnan
- Secularism in the Present Indian Society, Amal Kumar Mukhopadhyay in Bulletin of the Ramakrishna Mission Institute of Culture, Vol. LVII, No. 11
- Secularism and Its Critics: Rajeev Bhargava (ed.)
- Civil Society and Its Institutions: Andre Beteille
- Unraveling the Nation: Sectarian Conflict and India's Secular Identity: Kaushik Basu & Sanjay Subramaniam (eds.)
- India as A Secular State: D.E. Smith
- Political Thought: C.L. Wayper
- Political Philosophy: An Introduction: W.T. Blackstone
- Political Philosophy: East and West: Krishna Roy
- Political Philosophy: V.P. Verma
- Essays in Social and Political Philosophy: Krishna Roy & Chhanda Gupta (eds.)
- Western Political Thought: Brian R. Nelson

- Western Political Thought: From Plato to Marx: Shefali Jha

### **Bengali:**

- Samaj Darshan Dipika: Pritibhushan Chattopadhyay
- Samaj Tattva: Parimal Bhushan Kar
- Samaj Tattva: T. Bottomore
- Bisay Samaj Tattva: Anadi Kumar Mahapatra
- Samajdarshan O Rashtradarshaner Parichoy: A.K. Mahapatra O P. Mukherjee
- Rashtradarshaner Dhara: Amal kumar Mukhopadhyay
- Samaj O Rajnaitikdarshan: Sandip Das
- Samyabader Istehar : Marx O Engels
- Samajtantra: Kalpanik O Baijnanik: F. Engels
- Marxiya Rashtrachinta: Shovan Lal Dutta Gupta
- Sarvodaya Andoloner Itihas: Gurudas Bandyopadhyay
- Gandhi Rachanasambhar: M.K. Gandhi
- Bharater Dharmanirapekshatar Sankat, Bholanath Bandyopadhyay in Essays on Science and Society: Biplab Chakraborti
- Dharmanirapekshata Birodhi Istahar: Ashis Nandy.

### **Core Course**

#### **PHI-A-CC-7-Philosophy of Religion (6 Credits per week)**

- a) Nature and scope of Philosophy of Religion. Doctrine of karma and rebirth, doctrine of liberation, (Hindu, Bauddha and Jaina views).
- b) The Philosophical teachings of the Holy Quran: God the ultimate Reality, His attributes, His relation to the world and man.
- c) Some basic tenets of Christianity: The doctrine of Trinity, The theory of Redemption .
- d) Religious Pluralism, Inter-religious dialogue and Possibility of Universal Religion.
- e) Arguments for the existence of God: Cosmological, Teleological and Ontological arguments, Nyāya arguments.
- f) Grounds for Disbelief in God: Sociological theory (Durkheim), Freudian theory, Cārvāka, Bauddha and Jaina views .
- g) The Peculiarity of Religious Language: The doctrine of analogy, Religious statements as Symbolic, Religious language as Non-Cognitive (Randal's view), the language game theory (D.Z. Phillip).

### **Suggested Readings:**

#### **English:**

- Philosophy of Religion: J. Hick
- An Introduction to the Philosophy of Religion: Brian Davies
- Indian Philosophy of Religion: A. Sharma

- Comparative Religion: P.B. Chatterjee
- Comparative Religion: Eric J. Sharpe
- Patterns in Comparative Religion: M. Eliade (Ch I, Sec. I)
- Atheism in Indian Philosophy: D.P. Chattopadhyay
- Essays in Indian Philosophy (pp-145-169): Sukharanjan Saha (ed.)
- Studies in Nyaya-Vaisesika Theism (pp-102-137,139-159): Gopika Mohan Bhattacharya
- The Religions of the World: R.K.M. Institute of Culture
- Encyclopedia Britannica, Vol. I
- Encyclopedia of Islam, Vols. I & II
- Indian Religions: S. Radhakrishnan
- Foundations of Living Faith: H.D. Bhattacharya
- Aspects of Hindu Morality: Saral Jhingram
- A History of Muslim Philosophy (Vols.I &II): M.M. Sharif
- Islam and Secularism: Sayed Muhammad Al-Naquib Al-Attas
- The History of Philosophy in Islam-T.J. de Boer: E. Jones (tr.)
- The Holy Quran: Mohammad Yusuf Ali (tr.)
- The Spirit of Islam: Syed Amir Ali
- The Meaning of the Glorious Koran: M. Pickthall
- A History of Islamic Philosophy: M. Fakhry
- The Spirit of Islam's Message, Muhammad Qamaruddin in Religions of the People of India:S.R. Saha (ed.)
- Cultural Heritage of Islam: Osman Ghani
- Old Testament: R. Kittel (ed.)
- New Testament: Kilpatrick
- The Doctrine of the Trinity: R.S. Franks
- The Doctrine of the Trinity: Loenard Hodgson
- The Idea of the Holy: R. Otto
- A Brief Account of the Religion of the Hindus: Srilekha Dutta in Religions of the People of India: S.R. Saha (ed.)
- Dharma in Hinduism: An Ideal Religion: Tapan Kumar Chakraborty in Religions of the People of India: S.R. Saha (ed.)
- Jainism-A Religion of Non-Theistic Humanism: Tushar Sarkar in Religions of the People of India: S.R. Saha (ed.)
- Essays in Analytical Philosophy (Ch.VII): Gopinath Bhattacharya
- Buddhism in India and Abroad: Anukul Bandyopadhyay

## **SEMESTER 4**

### **Core course**

#### **PHI-A-CC-8- Western Logic –I (6 Credits per week)**

- a) Logic and Arguments, Deductive and Inductive Arguments, Argument forms and arguments, Statement forms and statement, Truth and Validity.

Categorical propositions and classes: quality, quantity and distribution of terms, Translating categorical propositions into standard form.

- b) Immediate inferences: Conversion, Obversion and Contraposition, Traditional square of opposition and Immediate Inferences based thereon; Existential Import, symbolism and Diagrams for categorical propositions.
- c) Categorical Syllogism: Standard Form categorical Syllogism; The Formal nature of Syllogistic Argument, Rules and Fallacies, General Rules; To test Syllogistic Arguments for validity (by applying general rules for syllogism); To solve problems and prove theorems concerning syllogism.
- d) Boolean Interpretation of categorical propositions; Review of the Traditional Laws of Logic concerning immediate inference and syllogism; Venn Diagram Technique for Testing Syllogisms, Hypothetical and Disjunctive Syllogisms, Enthymeme, The Dilemma.
- e) Induction: Argument by Analogy, Appraising Analogical Arguments, Refutation by Logical Analogy.
- f) Causal Connections: Cause and Effect, the meaning of “Cause”; Induction by Simple Enumeration; Mill’s Method of Experimental Inquiry; Mill’s Method of Agreement, Method of Difference, Joint Method of Agreement and Difference, Method of Residues, Method of Concomitant Variations; Criticism of Mills Methods, Vindication of Mill’s Methods.
- g) Science and Hypothesis: Explanations; Scientific and Unscientific, Evaluating Scientific Explanations; The pattern of Scientific Investigation; Crucial Experiments and Ad Hoc Hypotheses.
- h) Probability: Alternative Conception of Probability; The Probability Calculus; Joint Occurrences; Alternative Occurrences.

### **Suggested Readings:**

#### **English:**

- Introduction to Logic (13th edn.): I.M. Copi & C. Cohen
- Symbolic Logic: I.M. Copi
- Methods of Logic (Part I, Ch.s 5,7,9): W.V.O. Quine
- Introduction to Logic and Scientific Method: Cohen & Nagel
- Logic: Informal, Symbolic and Inductive: Chhanda Chakraborty
- Logic: Stan Baronett & Madhuchhanda Sen
- The Elements of Logic: Stephen Barker
- Understanding Symbolic Logic: Virginia Klenk
- Logic- A Comprehensive Introduction; S.D. Guttenplan & M. Tamney
- Logic & Philosophy- A Modern Introduction: Howard Kahne
- Logic- A First Course: A.E. Blumberg

#### **Bengali:**

- Nabya Yuktibijnana(Pratham theke caturtha khanda): Ramaprasad Das
- Sanketik Yuktibijnana: Ramaprasad Das

- Samsad Yuktibijnana Abhidhan: Ramaprasad Das O Subirranjan Bhattacharya

### **Core Course**

#### **PHI-A-CC-9-Western Logic – II (6 Credits per week)**

- a) Symbolic Logic: The value of special symbols; Truth-Functions; Symbols for Negation, Conjunction, Disjunction, Conditional Statements and Material Implication; Material Equivalence and Logical Equivalence; Dagger and stroke functions; inter-definability of truth functors.
- b) Tautologous, Contradictory and Contingent Statement-Forms; the Paradoxes of Material Implication; The Three Laws of Thought.
- c) Determining the logical character of statement form and statements by
  - i) The Method of Truth-table.
  - ii) The Method of Resolution [dot notation excluded]
- d) Testing Argument Form and Argument for validity by
  - i) The Method of Truth-table.
  - ii) The Method of Resolution (Fellswoop & Full Sweep)[dot notation excluded].
- e) The Method of Deduction: Formal Proof of Validity: Difference between Implicational Rules and the Rules of Replacement; Construction of Formal Proof of Validity by using nineteen rules; Proof of invalidity by assignment of truth-values.
- f) Quantification Theory: Need for Quantification Theory, Singular Propositions; Quantification; Translating Traditional subject predicate proposition into the logical notation of propositional function and quantifiers.
- g) Quantification Rules and Proving Validity; Proving Invalidity for arguments involving quantifiers.

### **Suggested Readings:**

#### **English:**

- Introduction to Logic (13th edn.): I.M. Copi & C. Cohen
- Symbolic Logic: I.M. Copi
- Methods of Logic (Part I, Ch.s 5,7,9): W.V.O. Quine
- Introduction to Logic and Scientific Method: Cohen & Nagel
- Logic: Informal, Symbolic and Inductive: Chhanda Chakraborty
- Logic: Stan Baronett & Madhuchhanda Sen
- The Elements of Logic: Stephen Barker
- Understanding Symbolic Logic: Virginia Klenk
- Logic- A Comprehensive Introduction; S.D. Guttenplan & M. Tamney
- Logic & Philosophy- A Modern Introduction: Howard Kahne
- Logic- A First Course: A.E. Blumberg

#### **Bengali:**

- Nabya Yuktibijnana (Pratham theke caturtha khanda): Ramaprasad Das
- Sanketik Yuktibijnana: Ramaprasad Das
- Samsad Yuktibijnana Abhidhan: Ramaprasad Das O Subirranjan Bhattacharya

## **Core Course**

### **PHI-A-CC-10-Epistemology and Metaphysics (Western) (6 Credits per week)**

- a) Concepts, Truth
- b) Sources of Knowledge
- c) Some Principal uses of the verb “To know”, Conditions of Propositional Knowledge, Strong and weak senses of “know”
- d) Analytic truth and logical possibility
- e) The apriori
- f) The Problem of Induction
- g) Cause and Causal Principles
- h) Realism, Idealism
- i) Phenomenalism
- j) Substance and Universal

### **Suggested Readings:**

#### **English:**

- An Introduction to Philosophical Analysis—John Hospers
- The Problem of Knowledge: A.J. Ayer
- Language, Truth and Logic: A.J. Ayer
- Readings in Philosophical Analysis: J. Hospers
- The Central Questions of Philosophy: A.J. Ayer
- Theory of Knowledge: A.J. Woozley
- An Introduction to Philosophy: Shibapada Chakraborty

#### **Bengali:**

- Darshanik Jijnasa (Bagarthatattva): Ramaprasad Das
- Darshanik Jijnasa (Jnanatattva-Jnaner Svarup): Ramaprasad Das
- Darshanik Jijnasa (Jnanatattva): Ramaprasad Das
- Darshanik Jijnasa (Paratattva O Bhauto Jagater Jnana): Ramaprasad Das
- Darshanik Bishlesaner Ruparekha (Pratham O dvitiya khanda): Samarikanta Samanta
- Paschatya darshaner Ruparekha: Ramaprasad Das O Shibapada Chakraborty

## **SEMESTER 5**



## Core Course

### PHI-A-CC-11-Nyāya Logic and Epistemology –I (6Credits per week)

- Definition of buddhi or jñāna (cognition), its two kinds; Definition of smṛti; Two kinds of smṛti (memory); Definition of anubhava, its division into veridical (yathārtha) and non-veridical (ayathārtha); Three kinds of non-veridical anubhava; Definitions clarified in Tarkasamgraha Dīpikā.
- Four-fold division of pramā and pramāṇa. Definition of “Kāraṇa” (special causal condition) and “kāraṇa” (general causal condition). The concept of anyathāsiddhi (irrelevance) and its varieties. The definition of kārya (effect). Kinds of cause: samavāyi, a-samavāyi and nimitta kāraṇa (definitions and analysis).
- Definition of pratyakṣa and its two-fold division : nirvikalpaka and savikalpaka jñāna. Evidence for the actuality of nirvikalpaka.
- Sannikarṣa and its six varieties. Problem of transmission of sound; The claim of “anupalabdhi” as a distinctive pramāṇa examined.

### Suggested Readings:

#### English:

- Tarkasamgraha with Dipika: Gopinath Bhattacharya
- Tarkasamgraha: M.R. Bodas & Y.V. Athalye (tr. & ed.)
- The Elements of Indian Logic and Epistemology: Chanrodaya Bhattacharya
- A Primer of Indian Logic: Kuppaswami Shastri
- Fundamental Questions of Indian Metaphysics & Logic: S.K. Maitra
- The Nyaya Theory of Knowledge: S.C. Chatterjee

#### Bengali:

- Tarkasamgraha with Dipika: Narayan Chandra Goswami
- Tarkasamgraha with Dipika: Indira Mukhopadhyay
- Tarkasamgraha with Dipika: Panchanan Shastri
- Tarkasamgraha with Dipika: Kanailal Poddar

## Core Course

### PHI-A-CC-12-Ethics (Indian) (6 Credits per week)

- Introduction: Concerns and Presuppositions, Concept of Sthitaprajña, Karmayoga: (Gīta) Puruṣārthas and their inter-relations.
- Meaning of Dharma, Concept of Ṛṇa and Ṛta. Classification of Dharma: sādharma and adharmā and Asādhārana dharma, Varnāśrama dharma.
- Vidhi and Niṣedha.
- Buddhist Ethics: Pañcaśīla, Brahmavihārabhāvanā (Bauddha) Anuvrata, Mahāvratā, Ahimsā.
- Jaina Ethics: anubratā, mahabratā.

- f) Mimamsa Ethics: nitya naimittika karma and kāmya karma, the imperative in kāmya karmas and in kāmya karmas involving himsā.

### **Suggested Readings:**

#### **English:**

- The Fundamentals of Hinduism-A Philosophical Study: S.C. Chatterjee
- The Ethics of the Hindus: S.K. Maitra
- An Outline of Hinduism: T.M.P. Mahadevan
- Classical Indian Ethical Thought: K.N. Tewari
- Ethics in the Gita-An Analytical Study (pp-119-145): Rajendra Prasad
- Ethics in the Vedas, Satya prakash Singh in Historical-Developmental Study of Classical Indian Philosophy, [History of Science, Philosophy and Culture in Indian Civilisation (Vol. XII, Part 2)]: Rajendra Prasad (ed.)
- Rta, Satya, Tattva, Tathya, Samiran Chandra Chakraborty in Philosophical Concepts Relevant to Sciences in Indian Tradition, [History of Science, Philosophy and Culture in Indian Civilisation (Vol. VIII, Part 4)]: P.K. Sen (ed.)
- Development of Moral Philosophy in India; Surama Dasgupta
- Ethical Philosophies of India: I.C. Sharma
- Studies on the Purusarthas: P.K. Mahapatra (ed.)
- A Critical Survey of Indian Philosophy: C.D. Sharma
- Indian Philosophy (Vo. I): J.N. Sinha
- Philosophy of Hindu Sadhana: N.K. Brahma

#### **Bengali:**

- Nitividya: Mrinal Kanti Bhadra
- Nitividyar Tattvakatha: Somnath Chakraborty
- Nitishastra: Dikshit Gupta
- Dharma Darshan: A. Bandyopadhyay o K.C. Gupta
- Dharma Darshan: Rabindranath Das
- Nitividya: Sibapada Chakraborty
- Pashchatya Darshaner Itihas (Pratham o dwitiya khanda): S. Radhakrishnan
- Sarvadarshanasamgraha: Satyajyoti Chakraborty (Pratham Khanda)
- Dharmadarshanser Katipoy Samasya: Dilip Kumar Mohanta
- Dharma Darshan: Sushil Kumar Chakraborty
- Bharatiya Dharmaniti: Amita Chattopadhyay (Sampadita)
- Bharatiya Darshane Nirishvarvada: B.B. Purakayastha (pp-39-50,56-66)
- Bharatiya Darshaner Drishtite Muktir Swarup: Chandana Das

### **SEMESTER 6**

#### **Core Course**

## PHI-A-CC-13-Nyaya Logic and Epistemology –II (6 Credits per week)

- a) Definition of anumāna, anumiti and parāmarśa. Analysis of pakṣatā. Definition of vyāpti; Vyāptigraha.
- b) Definition of pakṣadharmatā—svārthānumiti and parārthānumiti; Analysis of pañcāvayavi Nyāya. Necessity of parāmarśa. Three kinds of linga or hetu: kevalānvayi, kevalayatirekī and anvayavyatirekī. Definition of pakṣa, Sa-pakṣa and vipakṣa with illustrations. Marks of sat hetu.
- c) Hetvābhāsa—two types of definition. Five kinds of hetvābhāsa: (1) “Savyabhicāra and its three kinds—defined and illustrated; (2) “Viruddha” defined and illustrated; (3) “Satpratipakṣa” defined and illustrated; (4) Three kinds of “Asiddha” enumerated; (a) āśrayāsiddhi (b) svarūpāsiddhi and (c) vyāpyatvāsiddhi. Vyāpyatvāsiddhi defined as “sopādhika hetu”. Upādhi and its four kinds (definition and illustration) (5) “Bādhita” (definition and illustration).
- d) “Upamāna pramāṇa” :Definition and analysis.“Śabda pramāṇa” : Definition and analysis. “Śakti” (the direct signifying power), the padapadārtha- sambandha considered as Īśvara-saṁketa, Controversy between the Mīmāṃsakas and the Naiyāyikas regarding the nature of Śakti as universal or particular.
- e) “Śaktigraha” (ascertainment of the meaning-relation), lakṣaṇa, varieties of lakṣaṇa, Analysis of “Gauṇī-vṛtti” (the secondary signifying power of a term), “Vyāñjanā-vṛtti” (the suggestive power of a term) analysed as a kind of śakti or lakṣaṇā.
- f) The question of lakṣanā-bīja tātparya, The concept of “yoga-rūḍhi”. The three conditions of “śābda-bodha”—ākāṅkṣā, yogyatā and sannidhi. Two kinds of statements distinguished— Vaidika and Laukika.
- g) “Arthāpatti” as a distinctive pramāṇa: Controversy between the Mīmāṃsakas and the Naiyāyikas.
- h) The theory of prāmāṇya:the issue between svataḥ-prāmāṇyavāda and parataḥ-prāmāṇyavāda regarding utpatti and jñapti; The Prābhākara theory of akhyāti.

### Suggested Readings:

#### English:

- Tarkasamgraha with Dipika: Gopinath Bhattacharya
- Tarkasamgraha: M.R. Bodas & Y.V. Athalye (tr. &ed.)
- The Elements of Indian Logic and Epistemology: Chanrodaya Bhattacharya
- A Primer of Indian Logic: Kuppaswami Shastri
- Fundamental Questions of Indian Metaphysics & Logic: S.K. Maitra
- The Nyaya Theory of Knowledge: S.C. Chatterjee

#### Bengali:

- Tarkasamgraha with Dipika: Narayan Chandra Goswami
- Tarkasamgraha with Dipika: Indira Mukhopadhyay
- Tarkasamgraha with Dipika: Panchanan Shastri
- Tarkasamgraha with Dipika: Kanailal Poddar

## **Core Course**

### **PHI-A-CC-14-Ethics (Western) (6 Credits per week)**

- A. Nature and Scope of Ethics, Classification of Ethics: a) Prescriptive, b) Meta Ethics, c) Applied Ethics.
- B. Moral and Non-moral actions, Object of Moral Judgement—Motive and Intention
- C. Moral Theories: Plato and Aristotle
- D. Standards of Morality: Hedonism—Ethical, Psychological. Utilitarianism: Act-utilitarianism, Rule-utilitarianism. Deontological Theories: Act-Deontological Theories, Rule-Deontological Theories—Kant's Theory
- E. Theories of Punishment

## **Suggested Readings:**

### **English:**

- History of Philosophy-Eastern and Western: (Vol. I & II): S. Radhakrishnan
- Principles of Ethics: P.B. Chatterjee
- A Manual of Ethics: J.S. Mackenzie
- Ethics: W. Frankena
- An Introduction to Ethics: W. Lillie
- Ethics-Theory and Practice: J. Thiroux (Chs II & III)
- Ethics-Theory and Practice: Y.V. Satyanaryana
- Moral Reasons: J. Nuttal
- Human Conduct: J. Hospers
- Ethics-The Fundamentals: Julia Driver
- An Introduction to Kant's Ethics: R. Sullivan
- Nicomachean Ethics: Aristotle
- Philosophical Ethics-An Introduction to Moral Philosophy: T.L. Beauchamp (ed.)
- Virtue Ethics: Rosalind Hursthouse (Ch. III)
- Karma, Causation and Retributive Morality: Rajendra Prasad

### **Bengali:**

- Nitividya: Mrinal Kanti Bhadra
- Nitividyar Tattvakatha: Somnath Chakraborty

- Nitishastra: Dikshit Gupta
- Nitividya: Samarendra Bhattacharya
- Nitividya: Sibapada Chakraborty
- Pashchatya Darshaner Itihas (Pratham o dwitiya khanda): S. Radhakrishnan
- Dharma Darshan: A. Bandyopadhyay o K.C. Gupta
- Dharma Darshan: Rabindranath Das
- Dharmadarshanser Katipoy Samasya: Dilip Kumar Mohanto
- Dharma Darshan: Sushil Kumar Chakraborty
- Bharatiya Dharmaniti: Amita Chattopadhyay (Sampadita)
- Bharatiya Darshane Nirishvarvada: B.B. Purakayastha (pp-39-50,56-66)
- Bharatiya Darshaner Drishtite Muktir Swarup: Chandana Das
- Sarvadarshanasamgraha: Satyajyoti Chakraborty (Pratham Khanda)

## **B. DISCIPLINE SPECIFIC ELECTIVE COURSE**

### **Semester 5**

**PHI-A-DSE-A(1)**(Any one from the following options)

#### **a) Western Logic- I (6 Credits per week)**

- 1) I.M. Copi: Symbolic Logic (fifth edn.) [Sections 3.4, 3.5, 3.6 and 3.7, 3.8 and Appendix B]
- 2) R.Jeffery: Formal Logic—Its scope and Limits (first edn.) [Ch IV and VI]
- 3) W.V.O. Quine: Methods of Logic (third edn.) [Ch.s 18, 19 and 21]
- 4) D. P. Suppes: Introduction to Logic (Indian edn.) [Ch.9,Section 9.1 to 9.7]

#### **Suggested Readings:**

##### **English:**

- Copi, I.M., Symbolic Logic

##### **Bengali:**

- Sanketik Yuktivijnan (Vakyakalan O Vidheyakalan): Ramaprasad Das
- Sabdajijnasa-Sabder Prakar o Prakriti: Ramaprasad Das
- Yukhtivaijnanik Paddhati: Ramaprasad Das

#### **b)Normative and Meta ethics (6 Credits per week)**

- 1) Postulates of morality
- 2) Virtue Ethics
- 3) Concept of value: Types of values, subjectivity/objectivity of values, moral skepticism
- 4) Distinction between normative and meta ethics

- 5) Meta-ethics: Nature of meta-ethics, Emotivism (A.J. Ayer's view), Intuitionism (Moore's view), Prescriptivism (R.M. Hare's view)

### **Suggested Readings:**

#### **English:**

- Ethics-The Fundamentals: Julia Driver
- Ethics-Theory and Practice: J. Thiroux (Chs II & III)
- Ethics-Theory and Practice: Y.V. Satyanaryana
- Moral Reasons: J. Nuttal
- Moral Reasons: James Rachels
- Philosophical Ethics-An Introduction to Moral Philosophy: T.L. Beauchamp (ed.)
- Virtue Ethics: R. Crisp & M. Stole (eds.)
- Virtue Ethics: Rosalind Hursthouse (Ch. III)
- Elements of Moral Philosophy: James Rachels
- Modern Moral Philosophy: W.D. Hudson
- Ethics Since 1900: Mary Warnock
- Introductory Ethics: Fred Feldman
- Ethics: W. Frankena
- Identity and Violence: Amartya Sen
- Twentieth Century Ethics: Roger Hancock
- Aspects of Hindu Morality: Saral Jhingram
- Practical Ethics: Peter Singer (Chs V, VII, VIII, X)
- A Companion to Ethics: Peter Singer (Chs 14, 19, 22)
- Man and Nature: G.F. MacLean (ed.)
- Language, Truth and Logic: A.J. Ayer
- The language of Morals: R.M. Hare

#### **Bengali:**

- Nitishastra: Dikshit Gupta
- Nitividya: Sanjib Ghosh
- Nitividyar Tattvakatha: Somnath Chakraborty
- Nitibidya- Shibapada Chakraborty

### **c)Philosophy of Language (Indian)(6 Credits per week)**

- 1) Definition and classification of pada
- 2) Introduction of concepts of āsatti, yogyatā, tātparya, ākāṃṣā
- 3) Different types of lakṣaṇā
- 4) śābdabodha
- 5) anvitābhīdhānvāda and avihitānvayavāda.

### **Suggested Readings:**

#### **English:**

- Tarkasaṃgraha: Annambhatta

- Tarkasamgraha: M.R. Bodas & Y.V. Athalye (tr. & ed.)
- The Elements of Indian Logic and Epistemology: Chandrodaya Bhattacharya
- A Primer of Indian Logic: Kuppaswami Shastri
- Fundamental Questions of Indian Metaphysics & Logic: S.K. Maitra
- The Nyaya Theory of Knowledge: S.C. Chatterjee

**Bengali:**

- Tarkasamgraha with Dipika: Narayan Chandra Goswami
- Tarkasamgraha with Dipika: Indira Mukhopadhyay
- Tarkasamgraha with Dipika: Panchanan Shastri
- Tarkasamgraha with Dipika: Kanailal Poddar

**PHI-A-DSE-B(1) Classical Texts** (Any one from the following options)

**a) An Enquiry Concerning Human Understanding** -D. Hume (6 Credits per week)

- Chapter 1—3
- Chapter 4—6
- Chapter 7- 9
- Chapter 10--- 12.

**Suggested Readings:**

**English:**

- An Enquiry Concerning Human Understanding-D. Hume: J.N. Mohanty (intr.)
- The Philosophy of David Hume: Pabitra Kumar Roy
- The Philosophy of David Hume: N.K. Smith
- Hume's Theory of Causality: Tapan Kumar Chakraborty
- Hume: V.C. Chappell (ed.)

**Bengali:**

- Hume-er Enquiry-Ekti Upasthapan: Ramaprasad Das
- Hume -er Darshan – Prahlad Kumar Sarkar (Ed.)

**b) The Problems of Philosophy--** Bertrand Russell (6 Credits per week)

- Chapter 1—3
- Chapter 4—6
- Chapter 7- 9
- Chapter 10--- 12.

**Suggested Readings:**

**English:**

- Russell and Moore – An Analytical Heritage: A.J. Ayer
- Russell: A.J. Ayer
- Russell : Mark Sainsbury
- The Philosophy of B. Russell : Schlipp (ed)
- Russell – A Short Introduction: A.C. Grayling

**Bengali:**

- Darshaner Samasya: Debika Saha
- Darshan Samasya: Sushil Kumar Chakrabarty

**c) Vedāntasāra: Sadananda Yogindra Saraswati(6 Credits per week)**

1. Mangalācaraṇa
2. Vedānter Paricaya
3. From anubandha catuṣṭaya to relation between Īśvara and Prājña
4. Origin of Sthūla Bhūta to Brahma- sākṣātkāra
5. Śravana o ṣaḍbidhalinganirupāṇa to jībanmuktir śeṣ phala

**Suggested Readings:****English:**

- A History of Indian Philosophy: S. N. Dasgupta

**Bengali:**

- Vedantasara : Upendranath Mukhopadhaya
- Vedantasara: Medha Caitanya
- Vedantasara: Kalibar Vedanta Vagish
- Vedantasara: Bipadbhanjan Pal
- Vedantasara- Advaitavada : Ashutosh Shastri
- Vedantasara: Swami Nikhilananda (Eng Version)

**d) Śrīmadbhagavadgītā (6 credits per week)**

1. A. Karmayoga (third chapter)
2. B. Guṇatrayabibhāga (fourteenth chapter)

**Suggested Readings:****English:**

- Ethics in the Gita- An Analytical Study : Rajendra Prasad
- Central Theme of Gita : Swami Ranganathananda

**Bengali:**

- Śrīmadbhagavadgītā: Madhusudan Saraswati
- Śrīmadbhagavadgītā: Atul Chandra Sen
- Śrīgītā: Jagadish Chandra Ghosh



- Gitanibandha: Sri Aurobindo
- Śrīmadbhagavadgītā: Swami Jagadiswarananda( Tran.)
- 

## Semester 6

**PHI-A-DSE-A(2)** (Any one from the following options)

### a) Western Logic – II(6 Credits per week)

- 1) H.W.B. Joseph: An Introduction to Logic [Ch.s II & IV]  
[Terms and their principal distinctions, The Predicables]
- 2) H.W.B. Joseph: An Introduction to Logic [Ch. V]  
[The Rules of Definition and Division: Classification and Dichotomy]

### Suggested Readings:

#### English:

- Copi, I.M., Symbolic Logic

#### Bengali:

- Sanketik Yuktivijnan (Vakyakalan O Vidheyakalan): Ramaprasad Das
- Sabdajijnasa-Sabder Prakar o Prakriti: Ramaprasad Das
- Yukhtivaijnjanik Paddhati: Ramaprasad Das
- Samsad Yuktivijnan Abhidhan: Ramaprasad Das o Subirranjan Bhattacharya

### b)Applied ethics (6 Credits per week)

1. Nature and scope of applied ethics.
2. Killing: Suicide, Euthanasia, Animal killing.
3. Poverty, Affluence and Morality.
4. War and Violence: Terrorism.
5. Right: Nature and Value of Human Rights—Discrimination on the basis of race, caste and religion.
6. The Ethics of Care.
7. Value beyond sentient beings, Reverence for life, Deep Ecology, Concepts of Kinship Ethics.
8. Ecological Concern in Indian thoughts: Jaina and Bauddha views.

### Suggested Readings:

#### English:

- Ethics-The Fundamentals: Julia Driver
- Ethics-Theory and Practice: J. Thiroux (Chs II & III)
- Ethics-Theory and Practice: Y.V. Satyanaryana
- Moral Reasons: J. Nuttal
- Moral Reasons: James Rachels

- Philosophical Ethics-An Introduction to Moral Philosophy: T.L. Beauchamp (ed.)
- Elements of Moral Philosophy: James Rachels
- Theories of Rights: J. Waldron (ed.)
- Human Rights: Alan Gewirth
- Modern Moral Philosophy: W.D. Hudson
- Ethics Since 1900: Mary Warnock
- Introductory Ethics: Fred Feldman
- Ethics: W. Frankena
- Identity and Violence: Amartya Sen
- Twentieth Century Ethics: Roger Hancock
- Aspects of Hindu Morality: Saral Jhingram
- Practical Ethics: Peter Singer (Chs V,VII,VIII,X)
- Applied Ethics: Peter Singer (ed.)
- A Companion to Ethics: Peter Singer (Chs 14,19,22)
- A Companion to Bio-Ethics: Peter Singer & H. Kuhse (eds.)
- Human Rights-An Introduction: D.J. O'Byrne
- Man and Nature: G.F. MacLean (ed.)
- Human Rights, Gender and the Environment: Manisha Preya, Krishna Menon, Madhulika Banerjee
- Gender: G. Geetha
- A Short Introduction to Feminist Theory: Rinita Mazumdar
- Feminist Thought: Shefali Moitra
- Justice and Care: Essential Readings in Feminist Ethics: Virginia Held (ed.)
- Language, Truth and Logic: A.J. Ayer
- The language of Morals: R.M. Hare

### **Bengali:**

- Nitishastra: Dikshit Gupta
- Vyavaharik Nitivijnan: N. Nandy & M. Bal
- Nitividya: Sanjib Ghosh
- Nitividyar Tattvakatha: Somnath Chakraborty
- Tattvagata Nitividya o Vyavaharik Nitividya: Samarendra Bhattacharya
- Vyavaharik Nitividya-Peter Singer: Pardip Kumar Roy (tr.)
- Prayogik Nitividya: A.S.M. Abdul Khalek
- Nitibidya- Shibapada Chakraborty

### **c) Philosophy of Language (Western)(6 Credits per week)**

- 1) Syntax, Semantics, Pragmatics.
- 2) Word-meaning, Definitions.
- 3) Vagueness.
- 4) Sentence-meaning.
- 5) Testability and Meaning.

### **Suggested Readings:**

**English:**

- The Philosophy of Language : A.P.Martinich
- An Introduction to Philosophical Analysis : John Hospers
- The Central Questions of Philosophy: A.J. Ayer
- Theory of Knowledge: A.J. Woozley
  
- The Problem of Knowledge: A.J. Ayer
- Language, Truth and Logic: A.J. Ayer
- Readings in Philosophical Analysis: J. Hospers
- An Introduction to Philosophy: Shibapada Chakraborty

**Bengali:**

- Darshanik Jijnasa (Bagarthatattva): Ramaprasad Das
- Darshanik Jijnasa (Jnanatattva-Jnaner Svarup): Ramaprasad Das
- Darshanik Jijnasa (Jnanatattva): Ramaprasad Das
- Darshanik Jijnasa (Paratattva o Bhauto Jagater Jnana): Ramaprasad Das
- Darshanik Bishlesaner Ruparekha (Pratham O dvitiya khanda): Samarikanta Samanta
- Paschatya darshaner Ruparekha: Ramaprasad Das o Shibapada Chakraborty

**PHI-A-DSE-B(2)**

**Contemporary Indian Philosophy** (Any one from the following options)

**a) Swami Vivekananda (6 Credits per week)**

1. Real nature of man.
2. Nature of Religion.
3. Ideal of Universal Religion.
4. Concept of Practical Vedanta.

**Suggested Readings:****English:**

- Contemporary Indian Philosophy: T.M.P. Mahadevan & G.V. Saroja
- Contemporary Indian Philosophy: Basant Kumar Lal
- Contemporary Indian Philosophy: Binoy Gopal Roy
- Practical Vedanta (Vol.II,pp-291-358): Swami Vivekananda
- Swami Vivekananda as a Philosopher: J.L. Shaw
- The Philosophy of Swami Vivekananda: Pradip Kumar Sengupta
- The Complete Works of Swami Vivekananda (Vol.I,pp-333-343 & II,pp-70-87,375-396):Mayavati Memorial Edition
- The Philosophy of Vivekananda: Govinda Dev

**Bengali:**

- Patraboli : Swami Vivekananda

**b) Rabindranath Tagore (6 Credits per week)**

1. Reality and God.
2. Nature of Man.
3. Surplus in man.
4. Nature of Religion.
5. Tagore's Humanism.

**Suggested Readings:**

**English:**

- Contemporary Indian Philosophy: T.M.P. Mahadevan & G.V. Saroja
- Contemporary Indian Philosophy: Basant Kumar Lal
- Contemporary Indian Philosophy: Binoy Gopal Roy
- Religion Of Man: Rabindranath Tagore
- The Philosophy of Rabindranath Tagore : Binay Gopal Roy
- Philosophy of Rabindranath Tagore: S. Radhakrishnan

**Bengali:**

- Rabindra Rachanabali (Khanda 12, pp-532-545, 567-614):  
Janmashatbarshiki Samskaran
- Rabindra Darsan: Sachindranath Gangopadhyay, Pabitra Kumar Roy,  
Nripendranath Bandyopadhyay

**c) Sri Aurobindo (6 Credits per week)**

1. Reality as Sat-Cit-Ānanda
2. Nature of Creation, the World process: Descent or involution, Maya and Lila, Ascent or evolution.
3. Integral Yoga.

**Suggested Readings:**

**English:**

- Contemporary Indian Philosophy: T.M.P. Mahadevan & G.V. Saroja
- Contemporary Indian Philosophy: Basant Kumar Lal
- Contemporary Indian Philosophy: Binoy Gopal Roy
- Life Divine: Sri Aurobindo
- Synthesis of Yoga: Sri Aurobindo
- Integral Yoga: Sri Aurobindo
- Among the Great: Dilip Kumar Roy (Chapter on Sri Aurobindo)
- Towards Superhumanity-The Philosophy of Sri Aurobindo: P.B. Chatterjee
- The Philosophy of Sri Aurobindo: Ramnath Sharma
- An Introduction to the Philosophy of Sri Aurobindo: S.K. Maitra
- Guide to Sri Aurobindo's Philosophy: K.D. Acharya
- Future Evolution of Man-The Divine Life Upon Earth: Sri Aurobindo
- Sri Aurobindo-The Prophet of Life Divine: Haridas Choudhuri
- Sri Aurobindo's Concept of the Superman: Chittaranjan Goswami

**Bengali:**

- Visva-Vivek: Asit kumar Bandyopadhyay, Sankari Prasad Basu, Sankar
- Manavjatir Bhabiswat Bibartan: Sri Aurobindo Ghosh
- Sri Aurobindo Katha: manmatho Mukhopadhyaya
- Divya Jivan: Srimat Anirban
- Yogo-samannay: Srimat Anirban
- Sri Aurobindo Janmo Satabarshiki Smarak Grantha: Sri Aurobindo Patha Mandir

**d) M.K.Gandhi(6 Credits per week)**

1. God and Truth.
2. Nature of Man.
3. Non-Violence
4. Satyāgraha
5. Swaraj
6. Theory of Trusteeship

**Suggested Readings:****English:**

- Contemporary Indian Philosophy: T.M.P. Mahadevan & G.V. Saroja
- Contemporary Indian Philosophy: Basant Kumar Lal
- Contemporary Indian Philosophy: Binoy Gopal Roy
- Hind Swaraj: M.K. Gandhi
- Trusteeship; M.K. Gandhi
- Selections from Gandhi: N.K. Bose
- Contemporary Indian Philosophy: S,Radhakrishnan& J.H. Murihead (eds.)
- The Evolution of Political Philosophy of Gandhi: Buddhadeb Bhattacharya
- Social and Political Thought of Gandhi: Jayantanuja Bandyopadhyay
- The Philosophy of Mahatma Gandhi: D.M. Dutta
- The Philosophy of Sarvodaya: K.S. Bharathi
- Gandhi's Political Philosophy: Bhikhu Parekh

**Bengali:**

- Sarvodaya Andoloner Itihas: Gurudas Bandyopadhyay
- Gandhi Parikrama: Sailesh Kumar Bandyopadhyay
- Gandhi Rachanasambhar: M.K. Gandhi

**SKILL ENHANCEMENT COURSE****Semester 3****PHI-A-SEC- A (any one from the following options)**

**a) Logical Reasoning and application : Indian and Western (2 Credits per week)**

1. The main objective of logical reasoning.
2. Reasoning in practice:
  - (i). Fallacy of relevance, Fallacies of ambiguity, Fallacies of weak induction, Avoiding fallacies
  - (ii) Different kinds of Hetvābhāsa-s after Nyāya system
  - (iii) Logical applications of the concept of pakṣatā
  - (iv) Functional applications of ordinary operative relations between sense-organs and respective objects .
3. Logic and the Law:
  - (i) Laws, courts and arguments
  - (ii) Language in the law
  - (iii) The functions of legal Language
  - (iv) Fallacies in the law
  - (v) Definitions in the law
4. Inductive reasoning in Law
  - (i) The method of Inquiry in Law
  - (ii) Causation in Legal reasoning
  - (iii) Analogical Reasoning in legal argument
  - (iv) Probability in legal argument
5. Deductive Reasoning in Law
  - (i) Determining the correct rule of Law
  - (ii) Identifying, formulating, and applying rules of law
  - (iii) The law of libel
  - (iv) Logic is right reasoning

**Suggested Readings:**

**English:**

- Introduction to Logic (9<sup>th</sup> Edition) : I. M. Copi & C. Cohen, Prentice Hall of India Pvt. Ltd., New Delhi, 1999.
- The Elements of Logic (5<sup>th</sup> Edition): S.F. Barker, McGraw-Hill Book Company, 1988.
- Introduction to Logic : P.J. Hurley, Wadsworth, 2007.
- The Concept of Logical Fallacies: Nandita Bandyopadhyaya

**Bengali:**

- Tarkasaṃgraha: Annambhatta
- Tarkasaṃgraha: M.R. Bodas & Y.V. Athalye (tr. & ed.)
- Tarkasaṃgraha with Dipika: Narayan Chandra Goswami
- Tarkasaṃgraha with Dipika: Indira Mukhopadhyay
- Tarkasaṃgraha with Dipika: Panchanan Shastri
- Tarkasaṃgraha with Dipika: Kanailal Poddar

**b) Man and Environment (2 Credits per week)**

## a) Classical Indian Attitude to Environment

- i) The Upanisadic world-view, ii) Tagore's understanding of nature, iii) The post-Upanisadic view of nature

## b) Respect for Nature

- i) The attitude of respect, ii) Bio-centric outlook to nature, iii) Ethical standards and rules that follow from the attitude of respect to nature, iv) The idea of inherent worth of nature.

## c) Intrinsic Value of nature

- i) Moore's talk of 'intrinsic properties', ii) Chilsom's idea of intrinsic value, iii) Attfield on the intrinsic value of nature, iv) Callicott's idea of intrinsic value of nature, v) Rolston III on intrinsic value of nature, vi) intrinsic value and objective value

## d) Deep Ecology and its Third World Critique

- i) Arne Naess on Deep Ecology, ii) Ramchandra Guha's critique of Deep Ecology

## e) Eco-feminism

- i) Understanding nature and the feminine, ii) Dualisms in Western tradition, iii) Masculinity, humanity and nature.

**Suggested Readings****English:**

1. 'Attitudes to Nature' John Passmore, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998

- 2.Sadhana (first Chapter), Rabindranath Tagore, Macmillan, New York, 1915
  - 3.Respect for Nature: A Theory of Environmental Ethics (Select Parts), Paul Taylor, Princeton University Press, Princeton, 1986
  4. 'Intrinsic value, Environmental Obligation and Naturalness', Robert Elliot, Monist, 1975
  5. 'The Shallow and the Deep, Long-Range Ecology Movements: A Summary', Arne Naess, Inquiry, 1973
  - 6.Nature, Self and Gender: Feminism, Environmental Philosophy and the Critique of Rationalism, Val Plumwood, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998
- Bengali:
- 7.Paribesh o Naitikata, Nirmalya Narayan Chakraborty, Progressive Book Forum, Kolkata, 2002

## Semester 4

**PHI-A-SEC- B**(any one from the following options)

**a) Emerging trends of thought**(2 Credits per week)  
(any two from the following)

- A. Business Ethics
  - B.Environmental Philosophy
  - C.Feminist Philosophy
  - D. Peace Studies
  - E.Recent trends in ethics

### **A. Business Ethics**

1. Why Study Business Ethics?
  - i)Ethical Issues in business
  - ii) Ethical principles in business
2. Environment and Business Ethics
  - i)Business ethics and environmental values
  - ii)Ethics of conserving depletable resources
3. Ethics in Management
  - i)Management by Value Programmes: a qualitative appraisal
  - ii) Ethical vision of Management : A Vedantic outline

## **Suggested Reading:**

### **English:**

- Business Ethics(7<sup>th</sup> edition) : Manuel G. Velasquez (Chapter 1,2&5)



- Ethics in Management : S. K. Chakraborty (Chapter 1&5)
- Management by Values -towards cultural congruence : S.K.Chakraborty
- Management Ethics-integrity at work: J.A.Patrick & John F. Quinn
- Business Ethics and Corporate Governance, Pearson Education India
- Business Ethics-an introduction to the ethics of values:Lucjan Klimsza

## **B. Environmental Philosophy**

### **Suggested Readings:**

#### **English :**

1. 'Attitudes to Nature' John Passmore,, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998
2. Respect for Nature: A Theory of Environmental Ethics (Select Parts),Paul Taylor, Princeton University Press, Princeton, 1986
3. 'Intrinsic value, Environmental Obligation and Naturalness', Robert ElliotMonist, 1975
4. 'The Shallow and the Deep, Long-Range Ecology Movements: A Summary',Arne Naess, Inquiry, 1973
5. Nature, Self and Gender: Feminism, Environmental Philosophy and the Critique of Rationalism, Val Plumwood, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998

#### **Bengali:**

6. Paribesh o Naitikata,Nirmalya Narayan Chakraborty, Progressive Book Forum, Kolkata, 2002

## **C.Feminist Philosophy**

### **Suggested Readings:**

#### **English:**

- 1)Feminist Thought: A Comprehensive Introduction, Rosemarie Tong ,Vol 1&2, Third Edition, Westview Press, 2009
- 2)Feminist Thought, Shefali Moitra, Munshiram Manoharlal Publishers Pvt .Ltd in association with Centre of Advanced Study in Philosophy, Jadavpur University, Kolkata, 2002
- 3)The Second Sex, Simone De Beauvoir, Vintage Books, London, 2001
- 4) A Companion to Feminist Philosophy (ed. Alison, M, Jaggar and Iris Marion Young), Willey-Blackwell, 1999
- 5) Feminist Knowledge (RLE Feminist Theory) Critique and Construct,(ed.Sneja Gunew),Routledge Library Editions,2014
- 6)Representing Reason: Feminist Theory and Formal Logic, (in ed.Rachel Jaffe Falmange and Marjorie Hans), Rowman and Littlefield Publisher, 2002

## **Bengali:**

- 7) Narivad, Rajasree Basu, Paschimanga Rajya Pustak Parshad, Kolkata, 2012. (Bengali)
- 8) Naitikata o Narivad, Shefali moitra, New age Publishers Pvt Ltd, Kolkata, 2003. (Bengali)

## **D. Peace Studies**

### **Suggested Readings:**

#### **English:**

- 1) Introduction to Peace Studies, David P. Barash, Belmont: Wadsworth, 1991.
- 2) 'International Relations', in The English Writings of Rabindranath Tagore: A Miscellany, (ed) Sisir Kumar Das, New Delhi: Sahitya Akademi, reprint 2006.
- 3) Handbook of Peace and Conflict Studies, Charles Webel and Johan Galtung (eds.): Routledge, London and New York, 2007

## **E. Recent Trends in Ethics**

### **Suggested Readings:**

#### **English:**

1. John F. Fitzgibbon: Ethics: Fundamental Principles of Moral philosophy, University Press of America, 1983
2. Moral Dilemmas, Christopher W. Gowans (ed): Oxford University Press, Oxford, 1987
3. Walter Sinnott-Armstrong: Moral Dilemma, Basil Blackwell, U.S.A., 1988
4. Daniel Statman (ed.): Moral Luck, State University of New York Press, New York, 1993
5. Bernard Williams: Moral Luck Philosophical Papers 1973-1980, Cambridge University Press, Cambridge, 1981

6. Justine D'Arms & Daniel Jacobson (ed): *Moral Psychology & Human Agency Philosophical Essays on the Science of Ethics*, Oxford University Press, Oxford, 2014
7. Paul Katsafanas: *Agency and the Foundations of Ethics—Nietzschean Constitutivism*, Oxford University Press, Oxford, 2013
8. John Martin Fischer and Mark Ravizza (ed): *Perspectives on Moral Responsibility*, Cornell University Press, Ithaca and London, 1993.

#### **b) Philosophy of Human Rights (2 Credits per week)**

1. A Definition and Nature of Human Rights
2. The Idea of Human Rights: Its Origins and Historical Developments during Ancient period, Modern period and Contemporary period
3. The Idea of Natural Law and Natural Rights: Thomas Hobbes and John Locke.
4. The Natural Rights Tradition: Some Reactions from Jeremy Bentham, Edmund Burke and Thomas Paine
5. Natural Right, Fundamental Right and Human Right
6. Preamble, Fundamental Rights and Duties (Indian Constitution)
7. Contemporary Perspectives: Joel Feinberg—Basic Rights

#### **Suggested Readings:**

##### **English:**

- Patrick Hayden (ed.): *The Philosophy of Human Rights*, Paragon House, St. Paul, First Edition, 2001.
- Morton E. Winston (ed.): *The Philosophy of Human Rights*, Wadsworth Publishing Co. Belmont, California, 1989.
- Jeremy Waldron (ed.): *Theories of Rights*, Oxford University Press, Oxford, 1984
- Ashwani Peetush and Jay Drydyk: *Human Rights: India and West*, Oxford University Press, New Delhi, 2015.
- James Nickel: *Making Sense of Human Rights*, Blackwell Publishing, Oxford, 2007.
- Henry Shue: *Basic Rights: Subsistence, Affluence and U. S. Foreign Policy*, Princeton University Press, Princeton, 1980.
- Gary, B. Herbert: *Philosophical History of Human rights*, Transaction Publishers, New Jersey, 2002.
- Michael Freedon: *Rights*, Worldview Publications, New Delhi, 1998.

- Lynn Hunt: *Inventing Human Rights: A History*, Norton & Company, New York, 2007.
- Jack Donnelly: *Universal Human rights in Theory and Practice*, Manas Publications, New Delhi, 2013.

### **Semester-wise Course for B.A.(General)**

	<b>Sem-1</b>	<b>Sem-2</b>	<b>Sem-3</b>	<b>Sem-4</b>	<b>Sem-5</b>	<b>Sem-6</b>
<b>Core Course (CC)</b>	2TH+2T U CC-1	2TH+2T U CC-2	2TH+2TU CC-3	2TH+2T U CC-4		
<b>Language (LCC)</b>			1TH+1TU LCC1(1)	1TH+1T U LCC2(1)	1TH+1TU LCC1(2)	1TH+1TU LCC2(2)
<b>Generic Elective (GE)</b>	1TH+1T U GE-1	1TH+1T U GE-2				
<b>Discipline Specific Elective (DSE)</b>					2TH+2TU DSE-A (1A+2A)	2TH+2TU DSE-B (1B+2B)
<b>Ability Enhancement Compulsory Course (AECC)</b>	1TH+0T U AECC-1	1TH+0T U AECC-2				
<b>Skill Enhancement Course (SEC)</b>			1TH+0TU SEC-A	1TH+0T U SEC-B	1TH+0TU SEC-A	1TH+0TU SEC-B
<b>Total No. of Courses and Marks</b>	4 x 100 = 400	4 x 100 = 400	4 x 100 = 400	4 x 100 = 400	4 x 100 = 400	4 x 100 = 400
<b>Total Credits</b>	20	20	20	20	20	20

TH = Theory T = Tutorial

- ❖ CC/LCC/GE/DSE : Each Theory and Tutorial Course have 5 and 1 Credit(s) respectively
- ❖ CC : 4 Courses each form 2 subjects (one course from each subject under each semester)
- ❖ LCC : LCC1-English courses; LCC2-MIL/Alternative English
- ❖ GE : Two courses from one subject different from core subjects including LCC
- ❖ DSE : 2 Courses each from 2 subjects
- ❖ AECC/SEC : Each Course has 2 Credits
- ❖ AECC-1 : Communicative English / MIL; AECC-2 : Environmental Studies



## University of Calcutta

### BA (General)-CBCS Syllabus in Philosophy, 2018

- A. Core Courses [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]
- B. Discipline Specific Elective [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]
- C. Generic Elective [Two courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 12 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

Core courses of 'General syllabus' will be treated as Generic Elective (GE) of 'Honours Syllabus'.

- D. Skill Enhancement [Two courses from each subject; Each course: 2 credits (No Tutorial segment). Total: 04 credits (2×15weeks =30)]

- Each course (CC& DSE) carries 80 marks and Minimum 80 classes (SEC-60).
- 65 marks for theoretical segment: 55 marks for descriptive questions + 10 marks for 1 mark questions.
- Skill Enhancement course carries 80 marks and minimum 50 classes: 80 marks for theoretical segment, there is no tutorial segment.
- Question Pattern for descriptive segment of 55 marks: 5 short questions out of 8 (5x5 = 25) + 2 questions out of 4(15 x 2 = 30).
- 15 marks for tutorial [The topics (within the syllabus) are to be decided by the concerned faculty of respective colleges.]

#### IMPORTANT NOTES:

- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.
- The format is subject to the common structural CBCS format of the University.

- The Skill enhancement course, based on the UGC Guidelines, have the common goal of developing specific skills of students of the discipline for better employment opportunities.

### **Semester 1**

**PHI-G-CC-1 Indian Epistemology and Metaphysics**

### **Semester 2**

**PHI-G-CC-2 Western Epistemology and Metaphysics**

### **Semester 3**

**PHI-G-CC-3 Western Logic**

### **Semester 4**

**PHI-G-CC-4 Philosophy of Mind**

### **Discipline Specific Elective**

#### **Semester 5**

**PHI-G-DSE-A**(Any one from the following options)

**a)Ethics : Indian and Western**

**b)Social and Political Philosophy**

#### **Semester 6**

**PHI-G-DSE-B** (Any one from the following optoions)

**a)Applied Ethics and Philosophy of Religion.**

**b)Contemporary Indian Thought**

### **Skill Enhancement Elective course:**

**PHI-G-SEC-A**(Any one from the following options either in Semester 3 or in Semester 5)

**a)Logical Reasoning and Application**

**b)Business Ethics**

**PHI-G-SEC-B** (Any one from the following options either in Semester 4 or in Semester 6)

**a)Man and Environment**

**b)Value Education**

## Semester 1

### PHI-G-CC-1 Indian Epistemology and Metaphysics (6 Credits per week)

- A. Cārvāka Epistemology: Perception as the only source of knowledge; Refutation of Inference and Testimony as source of knowledge.
- B. Nyāya Epistemology: The nature of perception; laukikasannikarṣa; Determinate (savikalpaka) and Indeterminate (nirvikalpaka): anumāna; sādhya, pakṣa, hetu, vyāpti, parāmarśa and vyāptigraha. Svārthānumiti and parārthānumiti, pañcāvayavīnyāya.
- C. Vaiśeṣika Metaphysics: Categories – dravya, guna, karma, sāmānya, viśeṣa, samavāya and abhāva.
- D. Advaita Metaphysics: Brahman, māyā, The relation between jīva and Brahman.

### Suggested Readings:

#### English:

- A Critical Survey of Indian Philosophy: C.D. Sharma
- An Introduction to Indian Philosophy: D. M. Dutta & S.C. Chatterjee

#### Bengali:

- Bharatiya Darshan: Nirodbaran Chakraborty
- Lokayata Darshan: Debiprasad Chatoopadhyay
- Nyaya-Vaisesika Darshan: Karuna Bhattacharya
- Bharatiya Darshan: Samarendra Bhattacharya

## Semester 2

### PHI-G-CC-2 Western Epistemology and Metaphysics (6 Credits per week)

- A. Different senses of 'Know'. Conditions of Propositional Knowledge, Origin of Concepts. Concept Rationalism-Views of Descartes and Leibniz, Concept Empiricism –Views of Locke, Berkeley and Hume.

- B. Theories of the origin of Knowledge: Rationalism, Empiricism, Kant's Critical Theory.
- C. Realism: Naive Realism, Locke's Representative, Realism, Subjective Idealism (Berkeley).
- D. Causality: Entailment Theory, Regularity Theory.
- E. Mind- Body Problem: Interactionism, Parallelism and the Identity Theory.

### **Suggested Readings:**

#### **English:**

- An Introduction to Philosophical Analysis: J. Hospers
- An Introduction to Philosophy: Shibapada Chakraborty

#### **Bengali:**

- Paschatya Darshan O Yuktivijnan: Ramaprasad Das
- Pashchatya Darshaner Ruparekha: Ramaprasad das o Sibapada Chakrabarty
- Paschatya Darshan O Yuktivijnan: Samir Kumar Chakrabarty
- Paschatya Darshan: Samarendra Bhattacharyya

### **Semester 3**

#### **PHI-G-CC-3 Western Logic (6 Credits per week)**

- A. Introductory topics: Sentence, proposition, argument, truth and validity.
- B. Aristotelian classification of categorical propositions, distribution of terms. Existential Import, Boolean interpretation of categorical propositions. Immediate inference. Immediate inference based on the square of opposition, conversion, obversion and contraposition.
- C. Categorical syllogism: Figure, mood, rules for validity, Venn Diagram method of testing validity, fallacies.
- D. Symbolic Logic: Use of symbols, Truth-functions: Negation, Conjunction, disjunction, implication, equivalence.
- E. Tautology, Contradiction, Contingent statement forms. Construction of truth-table, using truth-tables for testing the validity of arguments and statement forms.



F. Mill's methods of experimental inquiry.

### **Suggested Readings**

#### **English:**

- Introduction to Logic (13th edn): I.M. Copi and C. Cohen

#### **Bengali:**

- Paschatya Darshan O Yuktivijnan: Ramaprasad Das
- Paschatya Darsan O Yuktivijnan: Samir Kumar Chakrabarty

### **Semester 4**

#### **PHI-G-CC-4Philosophy of Mind. (6 Credits per week)**

- A. Sensation: What is sensation? Attributes of sensation. Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination.
- B. Consciousness: Conscious, Subconscious, Unconscious, Evidence for the existence of the Unconscious, Freud's theory of dream.
- C. Memory: Factors of memory, Laws of association, Forgetfulness. Learning: The trial and Error theory, Pavlov's Conditioned Response theory, Gestalt theory.
- D. Intelligence: Measurement of Intelligence, I.Q., Test of Intelligence, Binnet-Simon test.

### **Suggested Readings**

#### **English:**

- A Textbook of Psychology: Pareshnath Bhattacharya
- Introduction to Psychology: G.T. Morgan
- A Modern Introduction to Psychology: Rex Knight & M. Knight

#### **Bengali:**

- Manovidya: Priti Bhusan Chattopadhyay
- Manividya: Paresh Nath Bhattacharya
- Manovidya: Ira Sengupta

### **Semester 5**

#### **PHI-G-DSE-A**

**Any one from the following options**

### **a)Ethics: Indian and Western(6Credits per week)**

- A. Four Purusarthās – dharma, artha, kāma and mokṣa and their interrelation. Karma (Sakāma&Niṣkāma), Cārvāka Ethics.
- B. Buddhist Ethics: The Four Noble Truths and the Eight-Fold Path.
- C. Moral and Non-Moral Actions, Object of Moral Judgement.
- D. Teleological Ethics: Utilitarianism (Bentham and Mill)  
Deontological Ethics: Kant's Moral Theory.
- E. Theories of Punishment.

### **Suggested Readings:**

#### **English:**

- The Fundamentals of Hinduism- A Philosophical Study: S. C. Chatterjee
- The Ethics of Hindus: S.K. Maitra
- Principles of Ethics: P.B. Chatterjee
- A Manual of Ethics: J. S. Mackenzie
- Ethics: W. Frankena
- An Introduction to Ethics: W. Lillie

#### **Bengali:**

- Nitishastra: Dikshit Gupta
- Nitividya: Somnath Chakraborty
- Nitividya: Samarendra Bhattacharya
- Nitividya Tattvakatha: Somnath Chakraborty
- Nitividya: Sanjib Ghosh

### **b)Social and Political Philosophy (6 Credits per week)**

- A. Relation between Social Philosophy and Political Philosophy
- B. Primary Concepts: Society, Community, Association, Institution, Family.
- C. Social Class and Caste: Principles of Class and Caste; Marxist conception of class; Class Attitudes and Class consciousness
- D. Social Codes and Sanctions; Custom and Law; Culture and Civilisation.
- E. Social Changes: Marx and Gandhi.
- F. Political Ideals: Democracy: Its Different Forms. Socialism: Utopian and Scientific Socialism.

### **Suggested Readings:**

#### **English:**

- Fundamentals of Sociology : P. Gisbert
- Outlines of Social Philosophy : J. S. Mackenzie
- Problems of Political Philosophy : D. D. Raphael

- Society : R. M. MacIver & C. H. Page
- Sociology : M. Ginsberg
- Sociology : Tom Bottomore
- Sociology : S. N. Shankara Rao
- Sociology : D. C. Bhattacharya
- Sociology : P.B. Kar
- Guide to Modern Thought : C. E. M. Joad
- Introduction to Modern Political Theory: C.E.M. Joad
- The Evolution of Political Philosophy of Gandhi: Buddhadeb Bhattacharya
- Social and Political Thought of Gandhi: Jayantanuja Bandyopadhyay
- Religion in India: T.N.Madan(ed.)
- Religion and society: S. Radhakrishnan
- Secularism in the present Indian Society: Amal Kumar Mukherjee
- Secularism and its Critics: Rajeev Bhargava(ed.)
- Unravelling the Nation-Secular conflict and india's Secular Identity: Kaushil Basu & Sanjay Subramaniam (ed.)
- India as a Secular State: D.E. Smith
- The Philosophy of Mahatma Gandhi: D. M. Dutta
- The Philosophy of Sarvodaya: K. S. Bharathi
- Communist Manifesto: Karl Marx & Frederick Engels
- Socialism- Utopian and Scientific: F. Engels
- Open Society and Its Enemies: Karl Popper
- The Open Philosophy and The Open Society: M. Cornforth
- Political Thought: C. L. Wayper
- Political Philosophy- An introduction W. T. Blackstone
- Western Political Thought: Brian R. Nelson

### **Bengali:**

- Samaj Darshan Dipika: Pritibhusan Chattopadhyay
- Samaj Tattva: Parimal Bhusan Kar
- Samaj Tattve: T. Bottomore
- Bisay Samaj Darshan: Anadi Kumar Mahapatra
- Samjadarshan O Rashtradarshaner Parichoy: A. K. Mahapatra O P.Mukherjee
- Rashtradarshaner Dhara: Amal Kumar Mukhopadhyay
- Samyabader Istehar: Marx O Engels
- Samajtantra-Kalponik O Baijnanik: F. Engels
- Marxiya Rashtrachinta: Shovan Lal Dutta Gupta
- Sarvodaya Andoloner Itihas: Gurudas Bandyopadhyay
- Gandhi Rachanasambhar: M.K.Gandhi

**PHI-G-DSE-B****Any one from the following options****a) Applied Ethics and Philosophy of Religion. (6 Credits per week)**

- A. Concepts of Applied Ethics.
- B. Killing: Suicide, Euthanasia.
- C. Famine, Affluence and Morality.
- D. Environmental Ethics: Value Beyond Sentient Beings, Reverence for life, Deep Ecology.
- E. Nature & Concerns of Philosophy of Religion. Argument for the existence of God: Cosmological argument, Ontological argument and Teleological argument.
- F. Problem of Evil and Suffering.
- G. Grounds for disbelief in God: Sociological theory of Durkheim, Freudian Theory, Cārvāka View.

**Suggested Readings:****English:**

- Practical Ethics: Peter Singer
- Applied Ethics: Peter Singer (ed)
- Philosophy of Religion: M. Edwards
- The Idea of God: Pringle Patison
- Atheism in Indian Philosophy: D. P. Chatterjee
- Philosophy of Religion: J. Hick
- An Introduction to the Philosophy of Religion: Brian Davies
- Indian Philosophy of Religion: A. Sharma

**Bengali:**

- Vyavaharik Nitivijnan: N. Nandy & M. Bal
- Dharma Darshan: A. Bandyopadhyay O K.C. Gupta
- Dharma Darshan : Rabindranath Das
- Dharma Darshan: Sushil Kumar Chakraborty
- Bharatiya Dharmaniti: Amita Chattopadhyay (Sampadita)
- Bharatiya Darshane Nirishvarvada: B. B. Purakayastha (pp39-50,56-66)

**b) Contemporary Indian Thought (6 Credits per week)**

- i) Swami Vivekananda: Nature of Man, Nature of Religion, Ideal of

universal religion, Practical Vedānta

ii) M.K. Gandhi : Nature of man, non-violence, satyāgraha, theory of trusteeship

iii) B.R. Ambedkar: Critique of social evils, Dalit movement

### **Suggested Readings:**

#### **English:**

- Practical Vedānta (Vol II, pp. 291—358): Swami Vivekananda
- Swami Vivekananda as a Philosopher: J.L. Shaw
- The Philosophy of Swami Vivekananda : Pradip Kumar Sengupta
- The Philosophy of Mahatma Gandhi: D.M. Dutta
- The Philosophy of Sarvodaya: K.S. Bharati
- Gandhi's Political Philosophy: Bhikhu Parekh
- Dr. Ambedkar – Life & Mission: Dhananjay Keer
- Social Philosophy of B. R. Ambedkar: D.R. Jatava

#### **Bengali:**

- Chintanayak Vivekananda: Swami Lokeshwarananda (ed)
- Visva—Vivek: Asit Kr Bandyopadhyay, Shankari Prasad Basu, Shankar.
- Sarvodaya Andoloner Itihas: Gurudas Bandyopadhyay
- Gandhi Parikrama: Sailesh Kumar Bandyopadhyay

### **Skill Enhancement Elective course**

**PHI-G-SEC-A** (Any one from the following options either in Semester 3 or in Semester 5)

#### **a) Logical Reasoning and Application (2 Credits per week)**

1. The main objective of logical reasoning.
2. Definitions: Pakṣa, sādhyā, hetu, sapakṣa and Vipakṣa.
3. Construction of kevalānvayī, kevalavyātirekī anvayvyātirekī anumiti.
4. Hetvābhāsa and its different kinds, detection of hetvābhāsa.
5. Reasoning in practice:

i) Fallacy of relevance, Fallacies of ambiguity, Fallacies of weak induction, Avoiding fallacies

ii) Logical applications of the concept of pakṣatā

iii) Functional applications of ordinary operative relations between sense-organs and respective objects.

6. Inductive reasoning in Law

(i) The method of Inquiry in Law

- (ii) Causation in Legal reasoning
- (iii) Analogical Reasoning in legal argument
- (iv) Probability in legal argument.

#### 7. Deductive Reasoning in Law

- (i) Determining the correct rule of Law
- (ii) Identifying, formulating, and applying rules of law.
- (iii) The law of libel
- (iv) Logic is right reasoning

### **Suggested Readings:**

#### **English:**

- Introduction to Logic (9<sup>th</sup> Edition) : I. M. Copi & C. Cohen, Prentice Hall of India Pvt. Ltd., New Delhi, 1999.
- The Elements of Logic (5<sup>th</sup> Edition): S.F. Barker, McGraw-Hill Book Company, 1988.
- Introduction to Logic : P.J. Hurley, Wadsworth, 2007.
- Tarkasaṃgraha: Annambhatta
- Word and the World: B.K. Matilal
- Tarkasaṃgraha: M.R. Bodas & Y.V. Athalye (tr. & ed.)
- The Concept of Logical Fallacies: Nandita Bandyopadhyaya

#### **Bengali:**

- Tarkasaṃgraha with Dipika: Narayan Chandra Goswami
- Tarkasaṃgraha with Dipika: Indira Mukhopadhyay
- Tarkasaṃgraha with Dipika: Panchanan Shastri
- Tarkasaṃgraha with Dipika: Kanailal Poddar

### **b) Business Ethics**

#### 1. Why Study Business Ethics?

- i) Ethical Issues in business
- ii) Ethical principles in business

#### 2. Environment and Business Ethics

- i) Business ethics and environmental values
- ii) Ethics of conserving depletable resources

#### 3. Ethics in Management

- i) Management by Value Programmes: a qualitative appraisal
- ii) Ethical vision of Management : A Vedantic outline

### **Suggested Reading:**

#### **English:**

- 1. Business Ethics (7th edition) : Manuel G. Velasquez (Chapter 1, 2 & 5)
- 2. Ethics in Management : S. K. Chakraborty (Chapter 1 & 5)
- 3. Management by Values -towards cultural congruence : S.K. Chakraborty

4. Management Ethics-integrity at work: J.A.Patrick & John F. Quinn
5. Business Ethics and Corporate Governance, Pearson Education India
6. Business Ethics-an introduction to the ethics of values: Lucjan Klimsza

**PHI-G-SEC-B** (Any one from the following options either in Semester 4 or in Semester 6)

**a) Man and Environment (2 Credits per week)**

**A. Classical Indian Attitude to Environment**

- i) The Upanisadic world-view, ii) Tagore's understanding of nature, iii) The post-Upanisadic view of nature

**B. Respect for Nature**

- i) The attitude of respect, ii) Bio-centric outlook to nature, iii) Ethical standards and rules that follow from the attitude of respect to nature, iv) The idea of inherent worth of nature.

**C. Intrinsic Value of nature**

- B. Moore's talk of 'intrinsic properties', ii) Chilsom's idea of intrinsic value, iii) Attfield on the intrinsic value of nature, iv) Callicott's idea of intrinsic value of nature, v) Rolston III on intrinsic value of nature, vi) intrinsic value and objective value

**D. Deep Ecology and its Third World Critique**

- i) Arne Naess on Deep Ecology, ii) Ramchandra Guha's critique of Deep Ecology

**E. Eco-feminism**

- i) Understanding nature and the feminine, ii) Dualisms in Western tradition, iii) Masculinity, humanity and nature.

**Suggested Readings**

**English:**

1. 'Attitudes to Nature' John Passmore, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998
2. Sadhana (first Chapter), Rabindranath Tagore, Macmillan, New York, 1915

3. Respect for Nature: A Theory of Environmental Ethics (Select Parts), Paul Taylor, Princeton University Press, Princeton, 1986
4. 'Intrinsic value, Environmental Obligation and Naturalness', Robert Elliot, Monist, 1975
5. 'The Shallow and the Deep, Long-Range Ecology Movements: A Summary', Arne Naess, Inquiry, 1973
6. Nature, Self and Gender: Feminism, Environmental Philosophy and the Critique of Rationalism, Val Plumwood, Environmental Ethics (ed.) Robert Elliot, Oxford University Press, Oxford, 1998

**Bengali:**

7. Paribesh o Naitikata, Nirmalya Narayan Chakraborty, Progressive Book Forum, Kolkata, 2002

**b) Value Education (2 Credits per week)**

- a) Meaning, Characteristics, significance and objectives of Value education
- b) Values in different contexts: Individual, Social, Cultural, Moral and Global and Spiritual.
- c) Meaning and Characteristics of Peace education
- d) Aims and Objectives of Peace Education
- e) Types of peace education
- f) Peace and Value Education in Global Perspective.

**Suggested Readings:**

**English:**

- Introduction to Peace Studies: David P. Barash Belmont
  - 'International Relations', in The English Writings of Rabindranath Tagore: A Miscellany, (ed) Sisir Kumar Das: Rabindra Nath Tagore.
  - Handbook of Peace and Conflict Studies: Charles Webel and Johan Galtung (eds.).
  - Peace and Value Education: Babu Muthuja.
  - Philosophy of Value: Aditya Mohanty
-





# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

## **Final Draft BA (Honours)-CBCS Syllabus in Political Science, 2018 (Section I)**

### **Core Courses**

[Fourteen courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 84 credits (1400 marks).

- ◆ Each course carries 80 marks<sup>^ ^</sup> (plus 10 marks each for Attendance and Internal Assessment).
- ◆ Minimum 30 classes for Theory and 15 contact hours for Tutorial per module.

<sup>^</sup>End Semester Assessment for each course--- 65 marks for theoretical segment: 50 marks for subjective/descriptive questions + 15 marks for category of 1 mark-questions. Question Pattern for subjective/descriptive segment of 50 marks: 2 questions (within 100 words; one from each module) out of 4 (10 x 2 = 20) + 2 questions (within 500 words; one from each module) out of 4 (15 x 2 = 30).

<sup>^^</sup>15 marks for tutorial-related segments as suggested below (any one item from each mode):

i) Written mode: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/equivalent Comprehension/equivalent Quotation or Excerpt Elaboration.

ii) Presentation Mode: Report Presentation/Poster Presentation/Field work--- based on syllabus-related and/or current topics (May be done in groups)[The modes and themes and/or topics are to be decided by the concerned faculty members of respective colleges.]

- ◆ Core courses: First 2 each in Semesters 1 and 2; Next 3 each in Semesters 3 and 4; 2 each in Semesters 5 and 6. [Sequentially arranged]

### **IMPORTANT NOTES:**

- ◆ The Readings provided below include many of those of the UGC Model CBCS Syllabus in Political Science. For further details of Course Objectives and additional references it is advised that the UGC model CBCS syllabus\* concerning relevant courses and topics be provided due importance and primarily consulted.  
\*Website: BA Political Science (Honours): [https://www.ugc.ac.in/pdfnews/2085906\\_B.A-Hons.-Pol-Science.pdf](https://www.ugc.ac.in/pdfnews/2085906_B.A-Hons.-Pol-Science.pdf)
- ◆ Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.
- ◆ Paper Code Format: Subject-Course-Semester-Paper Number-Paper Component.
- ◆ The format is strictly subject to the parameters of the common structural CBCS format of the University.

## **List of Core Courses**

- 1 – Understanding Political Theory: Concepts**
- 2 - Understanding Political Theory: Approaches and Debates**
- 3 - Constitutional Government in India**
- 4 – Politics in India: Structures and Processes**
- 5 – Indian Political Thought – I**
- 6 - Comparative Government and Politics**
- 7 – Perspectives on International Relations**
- 8 - Indian Political Thought – II**
- 9 – Global Politics since 1945**
- 10 – Western Political Thought & Theory I**
- 11 – Western Political Thought & Theory II**
- 12 - Political Sociology**
- 13 – Public Administration: Concepts and Perspectives**
- 14 – Administration and Public Policy in India**

**[Semester-level break-up provided below]**

## **Semester I**

### **Understanding Political Theory: Concepts** Code: PLS-A-CC-1-1-TH+TU

#### **Module I:**

1. Conceptualising politics: meaning of *political*.
2. Key concepts I: State; Nation; Sovereignty (evolution); Power and Authority--- types and linkages;
3. Key concepts II: Law, Liberty, Equality--- interrelationships.

#### **Module II:**

4. Key concepts III: Rights; Justice (with special reference to Rawls); Freedom.
5. Key concepts IV: Democracy (with special reference to David Held); Authoritarianism.
6. Key concepts V: Citizenship.

#### **Readings:**

- Bhargava, R. (2008) 'What is Political Theory' in Bhargava, R and Acharya, A. (eds.) Political Theory: An Introduction. pp. 2-16.
- Bellamy, R. (1993) 'Introduction: The Demise and Rise of Political Theory', in Bellamy, R. (ed.) Theories and Concepts of Politics. New York: Manchester University Press, pp. 1-14.
- Glaser, D. (1995) 'Normative Theory', in Marsh, D. and Stoker, G. (eds.) Theory and Methods in Political Science. London: Macmillan, pp. 21-40.
- D. Held: Political Theory Today.
- D. Held: Models of Democracy.
- N. Daniels: Reading Rawls.
- Andrew Heywood: The Basic Political Concepts.
- S. Ramaswamy: Political Theory--- Ideas and Concepts.
- S.P. Verma: Modern Political Theory.
- T. Ball and R. Bellamy: Twentieth Century Political Thought.
- R. Bellamy: Theories and Concepts in Politics: An Introduction.
- C. McKinnan: Issues in Political Theory.
- Menon, Krishna. (2008) 'Justice', in Bhargava, Rajeev and Acharya, Ashok. (eds.) Political Theory: An Introduction, pp. 74-86.

### **Understanding Political Theory: Approaches and Debates** Code: PLS-A-CC-1-2-TH+TU

#### **Module I:**

1. Approaches I: Normative; Legal-Institutional; Empirical-Behavioural--- Systems Analysis; Structural Functionalism.
2. Approaches II: Liberalism; Social Welfarism; Neo-Liberalism.
3. Approaches III: Postcolonial; Feminist.

## Module II:

4. Marxian approach--- Dialectical Materialism and Historical Materialism.

5. Key ideas: State (focus on Relative Autonomy); Class and Class Struggle; Surplus Value; Alienation.

6. Party--- Democratic Centralism; Lenin-Rosa Luxemburg debate; Revolution--- Lenin and Mao. Hegemony and Civil Society: Gramsci.

## Readings:

K. Marx and F. Engels: The Communist Manifesto.

V. I. Lenin: The State.

John Gray: Liberalism.

David McLellan: The Thought of Karl Marx.

David McLellan: Marxism after Marx.

Tom Bottomore ed.: A Dictionary of Marxist Thought.

D. Riaznov ed.: The Communist Manifesto of Marx and Engels.

M Cornforth: Dialectical Materialism.

R. Miliband: Marxism and Politics.

Laszek Kolakowski: Main Currents of Marxism (3 volumes).

Ravi Kumar: Contemporary Readings in Marxism.

Kymlicka: Multiculturalism.

Marxist Internet Archive: [www.marxist.org](http://www.marxist.org)

Gurpreet Mahajan: The Multicultural Path.

R. Young: Postcolonialism: A Very Short Introduction.

Richard Bellamy: Citizenship: A Very Short Introduction.

Margaret Walters: Feminism: A Very Short Introduction.

Arpita Mukhopadhyay: Feminisms.

For Courses I and II:

কার্ল মার্ক্স ও ফ্রিডরিশ এঙ্গেলস রচনা সংকলন

লেনিন নির্বাচিত রচনাবলী (বড়ো খণ্ড)

টম বটমোর: মার্ক্সীয় সমাজতন্ত্র (অনুবাদ: হিমাংশু ঘোষ)

দীপক কুমার দাস (সম্পাদিত): রাজনীতির তত্ত্বকথা (২ খণ্ড)

শোভনলাল দত্তগুপ্ত : মার্ক্সীয় রাষ্ট্রচিন্তা (২০০৬ সং)

ভোলানাথ বন্দ্যোপাধ্যায় : মরিস কর্নফোর্থ: দ্বন্দ্বমূলক বস্তুবাদ (অনুবাদ)

চৈতালি বসু: রাজনীতিশাস্ত্র ও অভিজ্ঞতাবাদী রাষ্ট্রতত্ত্ব

রাজশ্রী বসু ও বাসবী চক্রবর্তী (সম্পাদিত): প্রসঙ্গ মানববিদ্যা

অশোক সরকার: রাষ্ট্রবিজ্ঞান অভিধান

শোভনলাল দত্তগুপ্ত, রতন খাসনবিশ, সৌরীন ভট্টাচার্য: উত্তর-উপনিবেশবাদ ও মার্ক্সবাদ

দেবারতি সেনগুপ্ত ও পারমিতা ব্যানার্জি: পিতৃতন্ত্র কাহাকে বলে (কমলা ভাসিনের What is Patriarchy-র অনুবাদ)

## **Semester II**

### **Constitutional Government in India**

Code: PLS-A-CC-2-3-TH+TU

#### **Module I:**

1. Evolution of the Indian Constitution. Role of the Constituent Assembly--- debates (overview). The Preamble.
2. Citizenship. Fundamental Rights and Duties. Directive Principles.
3. Nature of Indian Federalism: Union-State Relations.
4. Union Executive: President, Vice-President: election, position, functions (focus on Emergency Powers), Prime Minister, Council of Ministers, relationship of Prime Minister and President.

#### **Module II:**

5. Union Legislature: Rajya Sabha, Lok Sabha: Organisation, Functions – Lawmaking procedure, Parliamentary procedure, Privileges, Committee system. Speaker.
6. Government in states: Governor, Chief Minister and Council of Ministers: position and functions – State Legislature: composition and functions.
7. Judiciary: Supreme Court and the High Courts: composition and functions – Judicial activism.
8. Constitutional amendment. Major recommendations of National Commission to Review the Working of the Constitution.

#### **Readings:**

Constitution of India: Government of India.

G. Austin: The Indian Constitution.

G. Austin: Working a Democratic Constitution

S.K. Chaube: The Constituent Assembly--- Springboard of a Revolution (latest edition).

M.V. Pylee: India's Constitution.

S.L. Sikri: Indian Government and Politics.

S.C. Kashyap ed.: Perspectives on the Constitution.

A.G. Noorani: Constitutional Question in India.

G. Austin, (2010) 'The Constituent Assembly: Microcosm in Action', in The Indian Constitution: Cornerstone of a Nation, New Delhi: Oxford University Press, 15th print, pp.1-25.

R. Bhargava, (2008) 'Introduction: Outline of a Political Theory of the Indian Constitution', in R. Bhargava (ed.) Politics and Ethics of the Indian Constitution, New Delhi: Oxford University Press, pp. 1-40.

D. Basu, (2012) Introduction to the Constitution of India, New Delhi: Lexis Nexis.

S. K. Chaube, (2009) The Making and Working of the Indian Constitution, Delhi: National Book Trust.

G. Austin, (2000) 'The Social Revolution and the First Amendment', in Working a Democratic Constitution, New Delhi: Oxford University Press, pp. 69-98.

B. Shankar and V. Rodrigues, (2011) 'The Changing Conception of Representation: Issues, Concerns and Institutions', in The Indian Parliament: A Democracy at Work, New Delhi: Oxford University Press, pp. 105-173.

V. Hewitt and S. Rai, (2010) 'Parliament', in P. Mehta and N. Jayal (eds.) The Oxford Companion to Politics in India, New Delhi: Oxford University Press, pp. 28-42.

J. Manor, (2005) 'The Presidency', in D. Kapur and P. Mehta P. (eds.) Public Institutions in India, New Delhi: Oxford University Press, pp.105-127.

J. Manor, (1994) 'The Prime Minister and the President', in B. Dua and J. Manor (eds.) Nehru to the Nineties: The

Changing Office of the Prime Minister in India, Vancouver: University of British Columbia Press, pp. 20-47.

H. Khare, (2003) 'Prime Minister and the Parliament: Redefining Accountability in the Age of Coalition Government', in A. Mehra and G. Kueck (eds.) The Indian Parliament: A Comparative Perspective, New Delhi: Konark, pp. 350-368.

U. Baxi, (2010) 'The Judiciary as a Resource for Indian Democracy', Seminar, Issue 615, pp. 61-67.

R. Ramachandran, (2006) 'The Supreme Court and the Basic Structure Doctrine' in B. Kirpal et.al (eds.) Supreme but not Infallible: Essays in Honour of the Supreme Court of India, New Delhi: Oxford University Press, pp. 107-133.

M. Singh, and R. Saxena (eds.), (2011) 'Towards Greater Federalization,' in Indian Politics: Constitutional Foundations and Institutional Functioning, Delhi: PHI Learning Private Ltd., pp.166-195.

V. Marwah, (1995) 'Use and Abuse of Emergency Powers: The Indian Experience', in B. Arora and D. Verney (eds.) Multiple Identities in a Single State: Indian Federalism in a Comparative Perspective, Delhi: Konark, pp. 136-159.

Additional Reading:

The Constitution of India: Bare Act with Short Notes, (2011) New Delhi: Universal, pp. 4-16.

ভারতীয় সংবিধান (বাংলা সংস্করণ)

দুর্গাদাস বসু - ভারতের সংবিধান পরিচয়

সুভাষ সি কাশ্যপ - আমাদের সংবিধান (অনুবাদ: পার্থ সরকার)

অমল কুমার মুখোপাধ্যায় - ভারতীয় সংবিধানের সহজ পাঠ

## Politics in India: Structures and Processes Code: PLS-A-CC-2-4-TH+TU

### Module I:

1. Party system: features and trends – major national political parties in India: ideologies and programmes.

Coalition politics in India: nature and trends. Political parties in West Bengal: Overview.

2. Electoral process: Election Commission: composition, functions, role. Electoral reforms.

3. Role of business groups, working class, peasants in Indian politics.

### Module IV:

4. Role of (a) religion (b) language (c) caste (d) tribe.

5. Regionalism in Indian politics.

6. New Social Movements since the 1970s: (a) environmental movements (b) women's movements (c) human rights movements.

### Readings:

R. Kothari, (2002) 'The Congress System', in Z. Hasan (ed.) Parties and Party Politics in India, New Delhi: Oxford University Press, pp 39-55.

E. Sridharan, (2012) 'Introduction: Theorizing Democratic Consolidation, Parties and Coalitions', in Coalition Politics and Democratic Consolidation in Asia, New Delhi: Oxford University Press.

Y. Yadav and S. Palshikar, (2006) 'Party System and Electoral Politics in the Indian States, 1952-2002: From Hegemony to Convergence', in P. deSouza and E. Sridharan (eds.) India's Political Parties, New Delhi: Sage Publications, pp. 73-115.

R. Hardgrave and S. Kochanek: India: Government and Politics in a Developing Nation (Latest edition).

S. Palshikar, (2008) 'The Indian State: Constitution and Beyond', in R. Bhargava (ed.) Politics and Ethics of the Indian Constitution, New Delhi: Oxford University Press, pp. 143-163.

Partha Chatterjee: State and Politics in India.

Sudipta Kaviraj ed.: Politics in India.

R. Kothari, (1970) 'Introduction', in Caste in Indian Politics, Delhi: Orient Longman, pp.3-25. M. Weiner, (2001) 'The Struggle for Equality: Caste in Indian Politics', in Atul Kohli (ed.) The Success of India's Democracy, New Delhi: Cambridge University Press, pp. 193-225.

C. J. Nirmal ed.: Human Rights in India.

Y. Yadav, (2000) 'Understanding the Second Democratic Upsurge', in F. Frankel, Z. Hasan, and R. Bhargava (eds.) Transforming India: Social and Political Dynamics in Democracy, New Delhi: Oxford University Press, pp. 120-145.

C. Jaffrelot, (2008) 'Why Should We Vote? The Indian Middle Class and the Functioning of World's Largest Democracy', in Religion, Caste and Politics in India, Delhi: Primus, pp. 604-619.

Deshpande, (2004) 'How Gendered was Women's Participation in Elections 2004?', Economic and Political Weekly, Vol. 39, No. 51, pp. 5431-5436.

Siddhartha Guha Roy: Human Rights, Democratic Rights and Popular Protest.

G. Shah: Social Movements in India. Raka Ray and M.F. Katzenstein eds.: Social Movements in India.

S. Corbridge and J. Harris: Reinventing India: Liberalization, Hindu nationalism and Popular Democracy.

Bipan Chandra et al.: India after Independence (1947-2000).

Rajni Kothari ed.: Caste in Indian Politics.

Bharati Ray and Aparna Basu eds.: From Independence to Freedom--- Indian Women since 1947.

Fields of Protest: Women's Movement in India.

D.N. Sen: From Raj to Swaraj.

R. Chatterjee ed.: Politics India--- State-Society Interface.

Sumit Ganguly et al. eds.: The State of India's Democracy.

Z. Hasan: Politics and Party Politics in India.

B.L. Shankar and V. Rodrigues: The Indian Parliament: A Democracy at Work.

Ashutosh Varshney: India and the Politics of Developing Countries.

Achin Vanaik and Rajiv Bhargava: Understanding Contemporary India: Critical Perspectives.

A. Kohli and P. Singh eds.: The Routledge Handbook of India Politics.

N.G. Jayal and P.B. Mehta eds.: The Oxford Companion to Politics in India.

Anil Jana ed., Decentralizing Rural Governance and Development.

Z. Hasan et al eds.: India's Living Constitution.

বিপ্লব চন্দ্র: সমসাময়িক ভারত বিষয়ক নিবন্ধ (অনুবাদ: দিলীপ ভট্টাচার্য্য)

বিপ্লব চন্দ্র, মৃদুলা মুখার্জী, আদিত্য মুখার্জী: ভারতবর্ষ স্বাধীনতার পরে ১৯৪৭-২০০০ (অনুবাদ: আশীষ লাহিড়ী)

সত্যব্রত দত্ত: বাংলা বিধানসভার একশো বছর

শাস্ত্রী ঘোষ: সমতার দিকে আন্দোলনে নারী

শুভেন্দু দাশগুপ্ত (সম্পাদিত): প্রসঙ্গ মানবাধিকার

ভারতীয় সংবিধান (বাংলা সংস্করণ)

### **Semester III**

#### **Indian Political Thought– I Code: PLS-A-CC-3-5-TH+TU**

##### **Module I:**

- 1 Ancient Indian Political ideas: overview.
2. Kautilya: Saptanga theory, Dandaniti, Diplomacy.
3. Medieval political thought in India: overview (with reference to Barani and Abul Fazal). Legitimacy of kingship.
4. Principle of Syncretism.



## Module II:

5. Modern Indian thought: Rammohun Roy as pioneer of Indian liberalism – his views on rule of law, freedom of thought and social justice.
6. Bankim Chandra Chattopadhyay, Vivekananda and Rabindranath Tagore: views on nationalism.
7. M.K. Gandhi: views on State, Swaraj, Satyagraha.

## Readings:

- R.S. Sharma: Aspects of Political Ideas and Institutions in Ancient India.  
Saiyid Athar Abbas Rizvi – A History of Sufism in India (Vol.2)  
Amit Dey – Sufism in India  
V.R. Mehta: Foundation of Indian Political Thought.  
T. Pantham, and K. Deutsch (eds.), Political Thought in Modern India.  
A. Altekar, (1958) 'The Kingship', in State and Government in Ancient India, 3rd edition  
Advaita Ashram: Complete Works of Swami Vivekananda.  
U.N. Ghosal: The History of Hindu Political Theories.  
J. Bandopadhyay: Social and Political Thought of Gandhi  
D.D. Kosambi: Ancient India.  
Romila Thapar: From Lineages to State.  
K.A. Nizami ed.: Politics and Society during the Early Medieval Period.  
B. Bhattacharya: Evolution of the Political Philosophy of Gandhi.  
B.R. Nanda: Gandhi and His Critics.  
Partha Chatterjee: Nationalist Thought and the Colonial World.  
Rabindranath Tagore: Nationalism.  
Sudipta Kaviraj: The Unhappy Consciousness: Bankimchandra Chattopadhyay and the Formation of Nationalist Discourse in India.  
Bidyut Chakrabarty and R.K. Pandey: Modern Indian Political Thought--- Text and Context.

- সুধীন্দ্রনাথ ভৌমিক: নব্যবঙ্গে রাষ্ট্রচিন্তার ধারা  
ভারতী মুখার্জী: প্রাচীন ভারতের রাষ্ট্রনৈতিক চিন্তা  
নৃসিংহ প্রসাদ ভাদুড়ি: দণ্ডনীতি  
সত্যরত চক্রবর্তী (সম্পা): ভারতবর্ষ: রাষ্ট্রভাবনা  
সুমিত সরকার: আধুনিক ভারত  
সরল চট্টোপাধ্যায়: ভারতীয় স্বাধীনতা সংগ্রামের ক্রমবিকাশ  
মনস্বিতা সান্যাল (অনু.): ভারতীয় জাতীয়তাবাদের সামাজিক পটভূমি (A R Desai: Social Background of Indian Nationalism-র অনুবাদ)  
দিলীপ কুমার বিশ্বাস: রামমোহন সমীক্ষা  
তরুণ কুমার বন্দ্যোপাধ্যায়: নেতাজী সুভাষচন্দ্রের রাষ্ট্রদর্শন  
দেবজ্যোতি বন্দ্যোপাধ্যায়: রবীন্দ্রনাথের জাতীয়তাবাদ-বিরোধী স্বদেশপ্রেম

**Module I:**

1. Evolution of Comparative Politics. Scope, purposes and methods of comparison.  
Distinction between Comparative Government and Comparative Politics.
2. Major approaches to the study of comparative politics---Institutional approach (dominant schools: Systems approach and Structural Functional approach)---limitations; New Institutionalism, Political Economy--- origin and key features.
3. Development and democratization: S.P. Huntington.
4. Classification of political systems. Nature of liberal and socialist political systems; distinguishing features--- conventions, rule of law (UK), separation of powers, checks and balances, judicial review (USA), democratic centralism (PRC), referendum, initiative (Switzerland).
5. Political Parties: Typology, features and roles (UK, USA, PRC and Bangladesh). Interest groups: roles (UK and USA).

**Module II:**

6. Unitary system: UK, Bangladesh. Federal system: USA, Russia.
7. Legislature in UK, USA and PRC: composition and functions of legislative chambers; Committee System in UK and USA
8. Executive in UK, USA, France and Russia: A comparative study of (i) Russian, French and American Presidency; (ii) British and French cabinet systems.
9. Judiciary in UK, USA and PRC (with focus on the Procuratorate): comparative study.
10. Rights of the citizens of UK, USA and PRC: A comparative study.

**Readings:**

- Gabriel Almond et al eds.: Comparative Politics Today: A World View (latest edition).  
J. Kopstein and M. Lichbach (eds.) Comparative Politics: Interest, Identities and Institutions in a Changing Global Order.  
Subrata Mukherjee and S. Ramaswamy: Theoretical Foundations of Comparative Politics.  
J. Bara and M Pennington eds.: Comparative Politics.  
J. Kopstein and H. Lichbach eds. : Comparative Politics.  
J. Harvey and S. Bather: The British Constitution.  
J. Wilson: American Government.  
S.E. Finer: Comparative Government.  
J. Blondel: An Introduction to Comparative Politics.  
The Constitution of People's Republic of China.  
J. Gittings: China Changes Face: The Road from Revolution 1949-89.  
S. Boyron: The Constitution of France: A Contextual Analysis.  
M. Burgess: Comparative Federalism: Theory and Practice.  
J. McCormick, Jr.: Comparative Politics in Transition.  
R. Chatterjee: Introduction to Comparative Political Analysis.  
N.K. Singh: Bangladesh--- Constitution, Law and Justice.  
J. Henderson: Constitution of the Russian Federation: A Contextual Analysis.  
S. P. Huntington: The Third Wave: Democratization in the Late Twentieth Century.  
M. Duverger: Political Parties.

রাখহরি চ্যাটার্জী: তুলনামূলক রাজনীতিপরিচয়  
অমিতাভ রায় (সম্পা): তুলনামূলক রাজনীতি  
রাজশ্রী বসু (সম্পাদিত)-তুলনামূলক শাসনব্যবস্থা ও রাজনীতি  
পঞ্চানন চট্টোপাধ্যায়: ফ্রান্সের সাধারণতন্ত্র

## **Perspectives on International Relations**Code: PLS-A-CC-3-7-TH+TU

### **Module I:**

1. Understanding International Relations: outline of its evolution as academic discipline.
2. Major theories: (a) Classical Realism and Neo-Realism (b) Dependency (c) World Systems theory.
3. Emergent issues: (a) Development (b) Environment (c) Terrorism (d) Migration.

### **Module II:**

4. Making of foreign policy.
5. Indian foreign policy: major phases: 1947-1962; 1962-1991; 1991-till date.
6. Sino-Indian relations; Indo-US relations.

### **Readings:**

M. Nicholson, International Relations: A Concise Introduction, New York: Palgrave.  
Jackson and G. Sorensen, Introduction to International Relations: Theories and Approaches, 3rd Edition.  
Joshua. Goldstein and J. Pevehouse, (2007) International Relations.  
C. Brown and K. Ainley, (2009) Understanding International Relations  
H.J. Morgenthau: Politics among Nations.  
K. Booth and S. Smith, (eds), International Relations Theory Today  
S.H. Hoffman: Essays in Theory and Politics of International Relations.  
K.J. Holsti: International Politics: A Framework for Analysis.  
J. Frankel: The Making of Foreign Policy.  
J. Frankel: Contemporary International Theory and Behaviour of States.  
J. Bennett: International Organizations.  
J. Bandopadhyay: The Making of India's Foreign Policy.  
D.A. Baldwin ed.: Neo-realism and Neo-liberalism.  
M. Smith and R. Little: Perspectives on World Politics.  
P.R. Viotti and M.V. Kauppi: International Relations and World Politics.  
Muchkund Dubey: India's Foreign Policy: Coping with the Changing World.  
Peu Ghosh: International Relations.  
S.D. Muni: Indian Foreign Policy: The Democracy Dimension.  
K.P. Bajpai and H.V. Panth: India's Foreign Policy--- A Reader.  
Sumit Ganguly: India's Foreign Policy: Retrospect and Prospect.  
V. P. Dutt: India's Foreign Policy since Independence.  
V.P. Dutt: Indian Foreign Policy in a Changing World.

পুরুষোত্তম ভট্টাচার্য ও অনিন্দ্যজ্যোতি মজুমদার (সম্পা.): আন্তর্জাতিক সম্পর্কের রূপরেখা  
গৌতম বসু: আন্তর্জাতিক সম্পর্ক: তত্ত্ব ও বিবর্তন

## **Semester IV**

### **Indian Political Thought II** Code: PLS-A-CC-4-8-TH+TU

#### **Module I:**

1. M.N. Roy: Radical Humanism.
2. Narendra Deva, Ram Manohar Lohia, Jayaprakash Narayan: Socialist ideas
3. Syed Ahmed Khan and Iqbal: views on colonialism and nationalism.

#### **Module II:**

4. Nehru: views on Socialism and Democracy. Subhas Chandra Bose: views on Socialism and Fascism.
5. Contested notions of 'nation'--- Savarkar, Jinnah.
6. Jyotiba Phule and Ambedkar on caste system and untouchability. Pandita Ramabai's views on social justice

#### **Readings:**

V. R. Mehta and T. Pantham (eds.), 'A Thematic Introduction to Political Ideas in Modern India: Thematic Explorations, History of Science, Philosophy and Culture in Indian civilization, Vol. 10, Part: 7, pp. xxvii-ixi.

V. Mehta and Th. Pantham (eds.), Political ideas in modern India: Thematic Explorations

S. Hay (ed.), Sources of Indian Tradition, Vol. 2. Second Edition.

T. Pantham and K.L. Deutsch: Political Thought in Modern India.

Sumit Sarkar: Modern India.

Bipan Chandra: Nationalism and Colonialism in Modern India.

A. Parel, (ed.), 'Introduction', in Gandhi, freedom and Self Rule

D. Dalton, (1982) 'Continuity of Innovation', in Indian Idea of Freedom: Political Thought of Swami Vivekananda, Aurobindo Ghose, Rabindranath Tagore and Mahatma Gandhi.

J. Nehru: Discovery of India.

B. Zachariah, Nehru.

S. Thorat and Aryana eds.: Ambedkar in Retrospect.

J. Sharma, (2003) Hindutva: Exploring the Idea of Hindu Nationalism

Y. Meherally ed.: Narendra Deva: Socialism and National Revolution.

Ramchandra Guha: India after Gandhi.

Uma Chakrabarti: Rewriting History: The Life and Times of Pandita Ramabai.

B. K. Bhattacharya ed., Salient Ideas of Rammonohar Lohia.

Bidyut Chakrabarty and R.K. Pandey: Modern Indian Political Thought--- Text and Context.

### **Global Politics since 1945** Code: PLS-A-CC-4-9-TH+TU

#### **Module I:**

1. Cold War and its evolution: outline. Emergence of Third World: NAM; Pan Africanism. Post-Cold War world: overview. Globalization: conceptions and perspectives.
2. Europe in transition: European Union, Brexit (overview).
3. Major institutions of global governance: World Bank, IMF, WTO--- overview. Major regional organizations: ASEAN, OPEC, SAFTA, SAARC and BRICS. West Asia and the Palestine question.

## Module II:

4. India and her neighbours I: Pakistan; Bangladesh.
5. India and her neighbours II: Nepal; Bhutan; Sri Lanka.
6. UNO: background; Major organs--- General Assembly, Security Council and Secretariat (with focus on Secretary General). Role of UNO in peace-keeping, human rights, and development (Millennium Development Goals and Sustainable Development Goals).

## Readings:

- P. Calvocoressi: World Politics since 1945 (latest edition).  
R. Mansbach and K. Taylor, (2012) Introduction to Global Politics  
J. Baylis and S. Smith (eds), The Globalization of World Politics: An Introduction to International Relations.  
G. Ritzer: Globalization--- A Basic Text.  
J.A. Moore, Jr. and J. Pubantz: The New United Nations.  
S. Juyal and B. Ramesh Babu: The United Nations and World Peace.  
K. Bajpai and H.C. Shukul eds.: Interpreting World Politics.  
J. Baylis and S. Smith: The Globalization of World Politics.  
L.M. Goodriche: The UN in Changing World.  
M.S. Rajan: Essays in Non-Alignment and UN.  
Alvin Y. So: Development and Social Change.  
J. Haynes: Third World Politics.  
Ankie Hoogvelt: Globalization and the Postcolonial World  
N.O. Sullivan ed.: Terrorism, Ideology and Revolution.  
D. Nayyar: Governing Globalization.  
G. Ritzer: Globalization--- A Basic Text.  
S.D. Muni: Responding to Terrorism in South Asia.  
Peter Burnel: Politics in the Developing World.  
B.C. Smith: Understanding Third World Politics.  
Björn Hettne: Development Theory and the Three Worlds.

রাধারমণ চক্রবর্তী ও সুকল্পা চক্রবর্তী: সমসাময়িক আন্তর্জাতিক সম্পর্ক  
পুরুষোত্তম ভট্টাচার্য ও অনিন্দ্যজ্যোতি মজুমদার (সম্পা.): আন্তর্জাতিক সম্পর্কের রূপরেখা  
গৌতম বসু: আন্তর্জাতিক সম্পর্ক: তত্ত্ব ও বিবর্তন  
অনীক চট্টোপাধ্যায়: ঠাণ্ডামুদ্রের পর আন্তর্জাতিক সম্পর্ক

## WESTERN POLITICAL THOUGHT AND THEORY I

Code: PLS-A-CC-4-10-TH+TU

## Module I:

1. Greek political thought: main features – Plato: justice, communism – Aristotle: state, classifications of constitutions.
2. Roman political thought: theories of Law and Citizenship – contributions of Roman thought.
3. Medieval political thought in Europe: major features.
4. Contribution of Machiavelli. Significance of Renaissance. Political thought of Reformation.

## Module II:

5. Bodin: Idea of Sovereignty.
6. Hobbes: founder of science of materialist politics.

7. Locke: founder of Liberalism. views on natural rights, property and consent.
8. Rousseau: views on freedom and democracy.

### **Readings:**

- A. Skoble and T. Machan: Political Philosophy: Essential Selections.  
 D. Boucher and P. Kelly, (eds) Political Thinkers: From Socrates to the Present  
 G. H. Sabine and T. I. Thorson: A History of Political Theory.  
 D. Boucher and P. Kelly: Political Thinkers: From Socrates to the Present.  
 S. Mukherjee and S. Ramaswamy: A history of Political Thought: From Plato to Marx.  
 R. G. Gettell: History of Political Thought.  
 B. Barker: The Political Thought of Plato and Aristotle.  
 Q. Skinner: Machiavelli: A Very Short Introduction.  
 A. K. Mukhopadhyay: Western Political Thought: from Plato to Marx.

## **Semester V**

### **WESTERN POLITICAL THOUGHT AND THEORY II**

Code: PLS-A-CC-5-11-TH+TU

#### **Module I:**

1. Bentham: Utilitarianism. John Stuart Mill: views on liberty and representative government.
2. Hegel: Civil Society and State.
3. T. H. Green: Freedom, Obligation.

#### **Module II:**

4. Utopian and Scientific Socialism: basic characteristics.
5. Varieties of non-Marxist socialism: Fabianism, Syndicalism, Guild Socialism.
6. Anarchism: overview.
7. Cultural Marxism: Frankfurt School (overview). Post-Marxism: emergence and basic contentions.

### **Readings:**

- A. Skoble and T. Machan: Political Philosophy: Essential Selections.  
 D. Boucher and P. Kelly, (eds) Political Thinkers: From Socrates to the Present  
 G. H. Sabine and T. I. Thorson: A History of Political Theory.  
 D. Boucher and P. Kelly: Political Thinkers: From Socrates to the Present.  
 S. Mukherjee and S. Ramaswamy: A history of political Thought: From Plato to Marx.  
 R. G. Gettell: History of Political Thought.  
 Q. Skinner: The Foundations of Modern Political Thought (2 Volumes).  
 A. K. Mukhopadhyay: Western Political Thought: from Plato to Marx.  
 C. E. M. Joad: Political Theory.  
 L. Kolakowski: Main Currents of Marxism (3 Volumes).  
 D. K. Das and T. Chattopadhyay: Varieties of Socialism.  
 D. McLellan: The Thought of Karl Marx.  
 D. McLellan: Marxism after Marx.

S. Mukherjee and S. Ramaswamy: A History of Socialist Thought.  
Frankfurt School: Internet Encyclopedia of Philosophy, <http://www.iep.utm.edu/frankfur/>

শোভনলাল দত্তগুপ্ত(সম্পা.:পাশ্চাত্য রাষ্ট্রভাবনা)  
অমল কুমার মুখোপাধ্যায়: রাষ্ট্রদর্শনের ধারা  
রামকৃষ্ণ ভট্টাচার্য: মার্কসবাদ জিজ্ঞাসা  
অমৃতভ বন্দ্যোপাধ্যায়: পাশ্চাত্য রাষ্ট্রচিন্তার ইতিহাস  
সুদীপ্ত দে: গণরাজ্য (প্লেটোর Republic র অনুবাদ)  
নির্মলকান্তি মজুমদার: এয়ারিস্টটলের Politics -র অনুবাদ  
সুনীল বরণ বিশ্বাস: ম্যাকিয়াভেলীর Prince -র অনুবাদ  
হিমাংশু ঘোষ: রাজনৈতিক তত্ত্বের ইতিহাস (J H Sabine র ভাষান্তর)  
শোভনলাল দত্তগুপ্ত: মার্কসীয় রাষ্ট্রচিন্তা-মার্কস থেকে মাও সে তুং

## **Political Sociology**Code: PLS-A-CC-5-12-TH+TU

### **Module I:**

1. Social bases of politics. Emergence of Political Sociology.
2. Political culture and Political socialization: nature, types and agencies.
3. Political participation: concept and types.
4. Political development and social change.
5. Political Communication: Concept and structures.

### **Module II:**

6. Social stratification and politics: caste, tribe, class, elite.
7. Gender and politics: basic issues.
8. Religion and politics: varying perspectives.
9. Military and politics: conditions and modes of intervention.
10. Electorate and electoral behaviour (with special reference to the Indian context).

### **Readings:**

Michael Rush: Politics and Sociology.  
B. Axford et al.: Politics--- An Introduction.  
Tom Bottomore: Political Sociology.  
Amal K. Mukhopadhyay: Political Sociology.  
S. Chakraborty ed.: Political Sociology.  
Tom Bottomore: Classes in Modern Society.  
R. Chatterjee ed.: Religion, Politics and Communalism.  
B. Lindenfeld ed.: Reader in Political Sociology.  
Pradip Basu (ed.) – Political Sociology  
J. Forbes: Women in Modern India.  
M. Evans ed.: The Women Question.  
P. Worsley: The Three Worlds: Culture and World Development.  
Samuel Huntington: Political Order in a Changing Society.  
G.A. Almond and J.S. Coleman eds.: The Politics of Developing Areas.

J. Manor: Rethinking Third World Politics.  
 J. Kantola et al eds.: The Oxford Handbook of Gender Politics.  
 J. Blondel: Comparative Government.  
 G.A. Almond and G.B. Powell, Jr.: Comparative Politics: A Developmental Approach.  
 S. Oates: Introduction to Media and Politics.

টম বটমোর: মাস্ট্রীয় সমাজতত্ত্ব (অনুবাদ: হিমাংশু ঘোষ); সত্যব্রত চক্রবর্তী: রাষ্ট্র, সমাজ ও রাজনীতি

## **Semester VI**

### **Public Administration-- Concepts and Perspectives** Code: PLS-A-CC-6-13-TH+TU

#### **Module I:**

1. Nature, Scope and Evolution of Public Administration – Private and Public Administration. Principles of Socialist Management.
2. Challenges to discipline of Public Administration and responses: New Public Administration, Comparative Public Administration, Development Administration (Indian context).
3. Major concepts of administration: (a) Hierarchy (b) Unity of Command (c) Span of Control (d) Authority (e) Centralization, Decentralization and Delegation (f) Line and Staff.
4. Public Administration in the era of globalization, liberalization and privatization. Governance: conceptual emergence--- distinction with government. e-governance: features and significance.

#### **Module II:**

5. Bureaucracy: views of Marx and Weber.
6. Ecological approach to Public Administration: Riggsian Model.
7. Administrative Processes: (a) Decision making (b) Communication and Control (c) Leadership (d) Coordination.
8. Public Policy: definition, characteristics. Models. Policy implementation.

#### **Readings:**

Nicholas Henry: Public Administration and the State.  
 W. Wilson, (2004) 'The Study of Administration', in B. Chakrabarty and M. Bhattacharya (eds), Administrative Change and Innovation: a Reader, New Delhi: Oxford University Press, pp. 85-101  
 Mohit Bhattacharya: Public Administration: Structure, Process and Behaviour.  
 M. Bhattacharya, Public Administration: Issues and Perspectives.  
 A. Avasthi and S. Avasthi: Public Administration.  
 M. Bhattacharya: Restructuring Public Administration.  
 B. Chakrabarty: Public Administration: From Government to Governance.  
 B. Chakrabarty and M. Bhattacharya eds.: Public Administration: A Reader.  
 B. Chakrabarty and M. Bhattacharya eds.: The Governance Discourse.  
 Shivani Singh: Governance: Issues and Challenges.  
 M.P. Sharma: Public Administration in Theory and Practice.  
 Rumki Basu: Public Administration: Concepts and Theories.  
 G.H. Frederickson: New Public Administration.  
 R. Prasad et al. eds.: Administrative Thinkers.



S.R. Maheswari: Administrative Theory.  
 Ramesh Arora: Comparative Public Administration.  
 R.K. Saprú: Development Administration.  
 M. Bhattacharya: New Horizons of Public Administration.  
 T. Dye, (1984) Understanding Public Policy, 5th Edition.  
 Xun Wu, M.Ramesh, Michael Howlett and Scott Fritzen, The Public Policy Primer: Managing The Policy Process.  
 Prabir Kumar De, *Public Policy and Systems*,  
 B. Chakrabarty and P. Chand: Public Administration in a Globalizing World: Theories and Practices.  
 U. Medury, Public administration in the Globalisation Era.  
 Additional Reading: The Oxford Handbook of Public Policy.

## **Administration and Public Policy in India** Code: PLS-A-CC-6-14-TH+TU

### **Module I**

1. Continuity and change in Indian administration: brief historical overview.
2. Civil Service in India (Bureaucracy): recruitment (role of UPSC, SPSC), training.
3. Organization of Union Government: Secretariat Administration: PMO, Cabinet Secretariat.
4. Organization of State Government: Chief Secretary – relations between Secretariat and Directorate.
5. District Administration: role of District Magistrate, SDO, BDO.

### **Module II:**

6. Local Self Government: Corporations, Municipalities and Panchayats in West Bengal, structure and functions. 73rd and 74th Amendment: overview.
7. Planning: Planning Commission, National Development Council. District Planning. Changing nature of planning: NITI Ayog. Budget--- concept and significance.
8. Financial Administration: Public Accounts Committee, Estimates Committee – role of CAG.
9. Citizen and administration: functions of Lokpal and Lokayukt. Right to Information--- Citizen Charter.
10. Citizen and social welfare policies: MGNREGA; Sarva Shiksha Abhiyan (SSA); National Health Mission (NRHM).

### **Readings:**

Bidyut Chakrabarty, Reinventing Public Administration: The Indian Experience.  
 S. R. Maheswari: Indian Administration.  
 R.B. Jain: Contemporary Issues in Indian Administration.  
 B. Chakrabarty and P. Chand: Indian Administration.  
 Noorjahan Bava, Development Policies and Administration in India.  
 Satyajit Singh and Pradeep K. Sharma [eds.] Decentralisation: Institutions and Politics in Rural India.  
 Basu Rumki: Public Administration in India Mandates, Performance and Future Perspectives.  
 A.Celestine: How to Read the Union Budget PRS, Centre for Policy Research, New Delhi, Available at <http://www.prsindia.org/parliamenttrack/primers/how-to-read-the-union-budget-1023/>  
 Primer on the Budget Process published by PRS, Available at <http://www.prsindia.org/parliamenttrack/primers/the-budget-process-484/>  
 R.V. Vaidyanatha Ayyar, Public Policy Making In India, Pearson.

B. Chakrabarty and P. Chand: Public Policy: Concepts, Theory and Practice.  
S. Singh and P. Sharma: Decentralization: Institutions and Politics in Rural India.  
Anil Jana ed.: Decentralizing Rural Governance and Development.  
P. Datta: Panchayats, Rural Development and Local Autonomy: the West Bengal Experience.  
A. Mukhopadhyay: Panchayat Administration in West Bengal.

For both Courses 13 and 14:

মোহিত ভট্টাচার্য ও বিশ্বনাথ ঘোষ: জনপ্রশাসন ও পরিকল্পনা  
সোমা ঘোষ: জনপ্রশাসন: তত্ত্ব ও প্রয়োগ  
রাজশ্রী বসু: জনপ্রশাসন  
পদ্মা রামচন্দ্রন: ভারতে সরকারী প্রশাসন (অনুবাদ: সন্তোষ কুমার অধিকারী)  
অসিত বসু: পশ্চিমবঙ্গে পঞ্চায়েত ব্যবস্থা  
প্রভাত দত্ত: প্রসঙ্গ পঞ্চায়েত

---

### **Guidelines:**

- i) For very contemporary topics, such as, NITI Ayog and MGNREGA, the respective official websites may be consulted.
  - ii) For supplementary readings, relevant reputed websites of recognized academic credential may be legally accessed.
  - iii) Bengali books cited in a particular course may be used in another *related* course, if found relevant.
-

## University of Calcutta

### **Final Draft BA (Honours)-CBCS Syllabus in Political Science, 2018 (Section II)**

**Discipline- specific Elective Category: 4 courses** (8 courses provided). One from Group A and one from Group B in Semesters 5 and one from Group A and one from Group B in Semester 6.

**Generic Elective Category: 4 courses**(Core Courses of the General Syllabus from a subject other than Political Science. Not provided here.)

Each DSE and GE course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment).

**Skill Enhancement/Skill-based Category: 2 courses**(4 courses provided). Each Course: 2 credits. Theoretical only (no Tutorial). Any one course from Group A in Semester 3 and any one course from Group B in Semester 4.

**Ability Enhancement Compulsory Category:2 courses:** Common for all. Not provided here.

- ◆ Each course carries 80 marks ^combining theoretical and tutorial segments (plus 10 marks each for Attendance and Continuous Internal Assessment).
- ◆ 6 credit course: Minimum 30 classes for Theory and 15 contact hours for Tutorial per module. 2 credit course: 30 teaching/lecture hours in total.

^End Semester Assessment--- 65 marks for theoretical segment: 50 marks for subjective/descriptive questions + 15 marks for 1 mark-questions. Question Pattern for subjective/descriptive segment of 50 marks: 2 questions (within 100 words; one from each module) out of 4 (10 x 2 = 20) + 2 questions (within 500 words; one from each module) out of 4 (15 x 2 = 30).>>For Skill Enhancement Courses the last component would carry 6 questions--- 15 marks each--- out of which 3 (at least one from each module) to be attempted because such courses have no Tutorial.

- ◆ 15 marks for tutorial-related segments as suggested below (any one item from each mode): i) Written mode: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/equivalent Comprehension/equivalent Quotation or Excerpt Elaboration. ii) Presentation Mode: Report Presentation/Poster Presentation/Field work--- based on syllabus-related and/or current topics (May be done in groups) [The modes and themes and/or topics are to be decided by the concerned faculty members of respective colleges.]
- ◆ Discipline-specific: 2 each (one from Group A and one from Group B) in Semesters 5 and 6.
- ◆ Generic Elective: 1 each in Semesters 1-4.<>Skill Enhancement: 1 each in Semesters 3 and 4.

#### **IMPORTANT NOTES:**

- ◆ The Readings provided below include many of those of the UGC Model CBCS Syllabus in Political Science. For Course Objectives and references it is advised that the UGC model CBCS syllabus\* concerning relevant courses and topics be provided due importance and primarily consulted.

\*Website: BA Political Science (Honours): [https://www.ugc.ac.in/pdfnews/2085906\\_B.A-Hons.-Pol-Science.pdf](https://www.ugc.ac.in/pdfnews/2085906_B.A-Hons.-Pol-Science.pdf)

- ◆ Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to English books.
  - ◆ Paper Code Format: Subject Code-Course Code-Semester Code-Paper Number-Paper Component.
  - ◆ The format is strictly subject to the parameters of the common structural format of CU CBCS.
- 

## **Honours in Political Science**

### **List of Discipline-specific Elective Courses:**

- ◆ Gender and Politics
- ◆ Understanding South Asia
- ◆ Indian Foreign Policy in a Globalising World
- ◆ Development Process and Social Movements in Contemporary India
- ◆ Public Policy in India
- ◆ Understanding Global Politics
- ◆ Citizenship in a Globalising World
- ◆ Human Rights in a Comparative Perspective

### **List of Skill Enhancement Courses:**

- ◆ Democratic Awareness through Legal Literacy
  - ◆ Understanding the Legal System
  - ◆ Legislative Practices and Procedures
  - ◆ Elementary Aspects of Social Research
-

## Discipline-specific Electives:

### Gender and Politics

Code: PLS-A-DSE-5-A(1)-TH+TU

#### Module I

##### I. Groundings

###### 1. Patriarchy

###### a. Sex-Gender Debates

###### b. Public and Private

###### c. Power

##### 2. Feminism

##### 3. Family, Community, State

###### a. Family

###### b. Community

###### c. State

#### Module II

##### II. Movements and Issues

###### 1. History of the Women's Movement in India

###### 2. Violence against women

###### 3. Work and Labour

###### a. Visible and Invisible work

###### b. Reproductive and care work

###### c. Sex work

#### Readings:

##### I. Groundings

###### 1. Patriarchy

T. Shinde, (1993) 'Stree Purusha Tulna', in K. Lalitha and Susie Tharu (eds), *Women Writing in India*, New Delhi, Oxford University Press, pp. 221-234.

###### a. Sex Gender Debates

#### Readings:

V Geetha, (2002) *Gender*, Kolkata, Stree, pp. 1-20

###### b. Public and Private

#### Readings:

M. Kosambi, (2007) *Crossing the Threshold*, New Delhi, Permanent Black, pp. 3-10; 40-46

###### c. Power

#### Readings:

N. Menon, (2008) 'Power', in R. Bhargava and A. Acharya (eds), *Political Theory: An Introduction*, Delhi: Pearson, pp.148-157

##### 2. Feminism

#### Readings:

B. Hooks, (2010) 'Feminism: A Movement to End Sexism', in C. Mc Cann and S. Kim (eds), *The Feminist Reader: Local and Global Perspectives*, New York: Routledge, pp. 51-57

R. Delmar, (2005) 'What is Feminism?', in W. Kolmar & F. Bartkowski (eds) *Feminist Theory: A Reader*, pp. 27-37

##### 3. Family, Community and State

## a. Family

### Readings:

R. Palriwala, (2008) 'Economics and Patriline: Consumption and Authority within the Household' in M. John. (ed) *Women's Studies in India*, New Delhi: Penguin, pp. 414-423

## b. Community

### Readings:

U. Chakravarti, (2003) *Gendering Caste through a Feminist Lens*, Kolkata, Stree, pp. 139-159.

## c. State

C. MacKinnon, 'The Liberal State' from *Towards a Feminist Theory of State*, Available at <http://fair-use.org/catharine-mackinnon/toward-a-feminist-theory-of-the-state/chapter-8>, Accessed: 19.04.2013.

### Additional Readings:

K. Millet, (1968) *Sexual Politics*, Available at <http://www.marxists.org/subject/women/authors/millett-kate/sexual-politics.htm>, Accessed: 19.04.2013.

N. Menon (2008) 'Gender', in R. Bhargava and A. Acharya (eds), *Political Theory: An Introduction*, New Delhi: Pearson, pp. 224-233

R. Hussain, (1988) 'Sultana's Dream', in *Sultana's Dream and Selections from the Secluded Ones – translated by Roushan Jahan*, New York: The Feminist Press

S. Ray 'Understanding Patriarchy', Available at [http://www.du.ac.in/fileadmin/DU/Academics/course\\_material/hrge\\_06.pdf](http://www.du.ac.in/fileadmin/DU/Academics/course_material/hrge_06.pdf), Accessed: 19.04.2013.

S. de Beauvoir (1997) *Second Sex*, London: Vintage.

Saheli Women's Centre, (2007) *Talking Marriage, Caste and Community: Women's Voices from Within*, New Delhi: monograph

## II. Movements and Issues

### 1. History of Women's Movement in India

### Readings:

I. Agnihotri and V. Mazumdar, (1997) 'Changing the Terms of Political Discourse: Women's Movement in India, 1970s-1990s', *Economic and Political Weekly*, 30 (29), pp. 1869-1878.

R. Kapur, (2012) 'Hecklers to Power? The Waning of Liberal Rights and Challenges to Feminism in India', in A. Loomba *South Asian Feminisms*, Durham and London: Duke University Press, pp. 333-355

### 2. Violence against Women

### Readings:

N. Menon, (2004) 'Sexual Violence: Escaping the Body', in *Recovering Subversion*, New Delhi: Permanent Black, pp. 106-165

### 3. Work and Labour

#### a. Visible and Invisible work

### Readings:

P. Swaminathan, (2012) 'Introduction', in *Women and Work*, Hyderabad: Orient Blackswan, pp. 1-17

#### b. Reproductive and care work

### Reading:

J. Tronto, (1996) 'Care as a Political Concept', in N. Hirschmann and C. Stephano, *Revisioning the Political*, Boulder: Westview Press, pp. 139-156

#### c. Sex work

### Readings:

Darbar Mahila Samanwaya Committee, Kolkata (2011) 'Why the so-called Immoral Traffic (Preventive) Act of India Should be Repealed', in P. Kotiswaran, *Sex Work*, New Delhi, Women Unlimited, pp. 259-262

N. Jameela, (2011) 'Autobiography of a Sex Worker', in P. Kotiswaran, *Sex Work*, New Delhi: Women Unlimited, pp. 225-241

**Additional Readings:**

- C. Zetkin, 'Proletarian Woman', Available at <http://www.marxists.org/archive/zetkin/1896/10/women.htm>, Accessed: 19.04.2013.
- F. Engels, *Family, Private Property and State*, Available at <http://readingfromtheleft.com/PDF/EngelsOrigin.pdf>, Accessed: 19.04.2013.
- J. Ghosh, (2009) *Never Done and Poorly Paid: Women's Work in Globalising India*, Delhi: Women Unlimited
- Justice Verma Committee Report*, Available at <http://nlrd.org/womens-rightsinitiative/justice-verma-committee-report-download-full-report>, Accessed: 19.04.2013.
- N. Gandhi and N. Shah, (1992) *Issues at Stake – Theory and Practice in the Women's Movement*, New Delhi: Kali for Women.
- V. Bryson, (1992) *Feminist Political Theory*, London: Palgrave-MacMillan, pp. 175-180; 196-200.
- M. Mies, (1986) 'Colonisation and Housewifisation', in *Patriarchy and Accumulation on a World Scale* London: Zed, pp. 74-111, Available at <http://caringlabor.wordpress.com/2010/12/29/maria-mies-colonization-andhousewifization/>,
- R. Ghadially, (2007) *Urban Women in Contemporary India*, Delhi: Sage Publications.
- S. Brownmiller, (1975) *Against our Wills*, New York: Ballantine.
- Saheli Women's Centre (2001) 'Reproductive Health and Women's Rights, Sex Selection and feminist response' in S Arya, N. Menon, J. Lokneeta (eds), *Nariwadi Rajneeti*, Delhi, pp. 284-306.
- V. Bryson (2007) *Gender and the Politics of Time*, Bristol: Polity Press.

**Understanding South Asia**

Code: PLS-A-DSE-5-A(2)-TH+TU

**Module I**

## I. South Asia- Understanding South Asia as a Region

- (a) Historical and Colonial Legacies
- (b) Geopolitics of South Asia

## II. Politics and Governance

Regime types: democracy, authoritarianism, monarchy

- (b) Emerging constitutional practices: forms of government in India, Nepal, Bhutan, Sri Lanka and Pakistan

**Module II**

## III. Socio-Economic Issues

- (a) Identity politics: challenges and impacts (case studies of India, Nepal, Sri Lanka)

## IV. Regional Issues and Challenges

- (a) South Asian Association for Regional Cooperation (SAARC): problems and prospects
- (b) Terrorism: Political and Social Consequences in South Asia;
- (c) Refugee crisis.

**Readings:**

- Hewitt, V. (1992) 'Introduction', in *The International Politics of South Asia*. Manchester: Manchester University Press, pp.1-10.
- Hewitt, V. (2010) 'International Politics of South Asia' in Brass, P. (ed.) *Routledge Handbook of South Asian Politics*. London: Routledge, pp.399-418.
- Muni, S.D. (2003) 'South Asia as a Region', *South Asian Journal*, 1(1), August-September, pp.

Baxter, C. (ed.) (1986) *The Government and Politics of South Asia*. London: Oxford University Press, pp.376-394.

Baxter, C. (2010) 'Introduction', Brass, P. (ed.) *Routledge Handbook of South Asian Politics*. London: Routledge, pp.1-24

## II. Politics and Governance

De Silva, K.M. (2001) 'The Working of Democracy in South Asia', in Panandikar, V.A (ed.) *Problems of Governance in South Asia*. New Delhi: Centre for Policy Research & Konark Publishing House, pp. 46-88.

Wilson, J. (2003) 'Sri Lanka: Ethnic Strife and the Politics of Space', in Coakley, J. (ed.) *The Territorial Management of Ethnic Conflict*. Oregon: Frank Cass, pp. 173-193.

Mendis, D. (2008) 'South Asian Democracies in Transition', in Mendis, D. (ed.) *Electoral Processes and Governance in South Asia*. New Delhi: Sage, pp.15-52.

Subramanyam, K. (2001) 'Military and Governance in South Asia', in V.A (ed.) *Problems of Governance in South Asia*. New Delhi: Centre for Policy Research & Konark Publishing House, pp.201-208.

Hachethi, K. and Gellner, D.N. (2010) 'Nepal : Trajectories of Democracy and Restructuring of the State', in Brass, P. (ed.) *Routledge Handbook of South Asian Politics*. London: Routledge, pp. 131-146.

Kukreja, V. 2011. 'Federalism in Pakistan', in Saxena R. (ed.) *Varieties of Federal Governance*. New Delhi: Foundation Books, pp. 104-130.

Jha, N.K. (2008) 'Domestic Turbulence in Nepal: Origin, Dimensions and India's Policy Options', in Kukreja, V. and Singh, M.P. (eds.) *Democracy, Development and Discontent in South Asia*. New Delhi: Sage, pp. 264-281.

Burki, S.J. (2010) 'Pakistan's Politics and its Economy', in Brass, P. (ed.) *Routledge Handbook of South Asian Politics*. London: Routledge, pp. 83-97.

Kaul, N. (2008) 'Bearing Better Witness in Bhutan', *Economic and Political Weekly*, 13 September, pp. 67-69.

## III. Socio-Economic Issues

Phadnis, U. (1986) 'Ethnic Conflicts in South Asian States', in Muni, S.D. et.al. (eds.) *Domestic Conflicts in South Asia : Political, Economic and Ethnic Dimensions*. Vol. 2. New Delhi: South Asian Publishers, pp.100-119.

Kukreja, V. (2003) *Contemporary Pakistan*. New Delhi: Sage, pp. 75-111 and 112-153.

## IV. Regional Issues and Challenges

Narayan, S. (2010) 'SAARC and South Asia Economic Integration', in Muni, S.D. (ed.) *Emerging dimensions of SAARC*. New Delhi: Foundation Books, pp. 32-50.

Muni, S.D. and Jetley, R. (2010) 'SAARC prospects: the Changing Dimensions', in Muni, S.D. (ed.) *Emerging dimensions of SAARC*. New Delhi: Foundation Books, pp. 1-31.

Baral, L.R. (2006) 'Responding to Terrorism: Political and Social Consequences in South Asia', in Muni, S.D. (ed.) *Responding to terrorism in South Asia*. New Delhi: Manohar, pp.301-332.

Muni, S.D. (2006) 'Responding to Terrorism: An Overview', in Muni, S.D. (ed.) *Responding to terrorism in South Asia*. New Delhi: Manohar, pp.453-469.

Hoyt, T.D. (2005) 'The War on Terrorism: Implications for South Asia', in Hagerty, D.T. (ed.) *South Asia in World Politics*. Lanham: Roman and Littlefield Publishers, pp.281-295.

Lama, M. (2003) 'Poverty, Migration and Conflict: Challenges to Human Security in South Asia', in Chari, P.R. and Gupta, S. (eds.) *Human Security in South Asia: Gender, Energy, Migration and Globalisation*. New Delhi: Social Science Press, pp. 124-144

Acharya, J. and Bose, T.K. (2001) 'The New Search for a Durable Solution for Refugees: South Asia', in Samaddar, S. and Reifeld, H. (eds.) *Peace as Process: Reconciliation and Conflict Resolution in South Asia*. New Delhi: Vedams, pp.137-157



### **Additional Readings**

- Baxter, C. (ed.) (1986) *The Government and Politics of South Asia*. London: Oxford University Press.
- Rizvi, G. (1993) *South Asia in a Changing International Order*. New Delhi: Sage.
- Thakur, R. and Wiggin, O. (ed.) (2005) *South Asia and the world*. New Delhi: Bookwell.
- Hagerty, D.T. (ed.) (2005) *South Asia in World Politics*, Oxford: Rowman and Littlefield.
- Samaddar, R. (2002) 'Protecting the Victims of Forced Migration: Mixed Flows and Massive Flows', in Makenkemp, M. Tongern, P.V. and Van De Veen, H. (eds.) *Searching for Peace in Central and South Asia*. London: Lynne Rienner.
- Kukreja, V. and Singh, M.P. (eds) (2008) *Democracy, Development and Discontent in South Asia*. New Delhi: Sage.

## **Indian Foreign Policy in a Globalising World**

Code: PLS-A-DSE-5-B (1)-TH+TU

### **Module I**

1. India's Foreign Policy: From a Postcolonial State to an Aspiring Global Power
2. India's Relations with the USA and USSR/Russia
3. India's Engagements with China

### **Module II**

4. India in South Asia: Debating Regional Strategies
5. India's Negotiating Style and Strategies: Trade, Environment and Security Regimes
6. India in the Contemporary Multipolar World

### **Readings:**

- I. India's Foreign Policy: From a Postcolonial State to an Aspiring Global Power
- S. Ganguly and M. Pardesi, (2009) 'Explaining Sixty Years of India's Foreign Policy', in *India Review*, Vol. 8 (1), pp. 4–19.
- Ch. Ogden, (2011) 'International 'Aspirations' of a Rising Power', in David Scott (ed.), *Handbook of India's International Relations*, London: Routledge, pp.3-31
- W. Anderson, (2011) 'Domestic Roots of Indian Foreign Policy', in W. Anderson, *Trusts with Democracy: Political Practice in South Asia*, Anthem Press: University Publishing Online.
- J. Bandhopadhyaya, (1970) *The Making of India's Foreign Policy*, New Delhi: Allied Publishers.
- II: India's Relations with the USA and USSR/Russia
- S. Mehrotra, (1990) 'Indo-Soviet Economic Relations: Geopolitical and Ideological Factors', in *India and the Soviet Union: Trade and Technology Transfer*, Cambridge University Press: Cambridge, pp. 8-28.
- R. Hathaway, (2003) 'The US-India Courtship: From Clinton to Bush', in S. Ganguly (ed.), *India as an Emerging Power*, Frank Cass: Portland.
- A. Singh, (1995) 'India's Relations with Russia and Central Asia', in *International Affairs*, Vol. 71 (1): 69-81.
- M. Zafar, (1984), 'Chapter 1', in *India and the Superpowers: India's Political Relations with the Superpowers in the 1970s*, Dhaka, University Press.
- H. Pant, (2008) 'The U.S.-India Entente: From Estrangement to Engagement', in H. Pant, *Contemporary Debates in Indian Foreign and Security Policy: India Negotiates Its Rise in the International System*, Palgrave Macmillan: London.
- D. Mistry, (2006) 'Diplomacy, Domestic Politics, and the U.S.-India Nuclear Agreement', in *Asian Survey*, Vol. 46 (5), pp. 675-698.
- III: India's Engagements with China

- H. Pant, (2011) 'India's Relations with China', in D. Scott (ed.), Handbook of India's International Relations, London: Routledge, pp. 233-242.
- A. Tellis and S. Mirski, (2013) 'Introduction', in A. Tellis and S. Mirski (eds.), Crux of Asia: China, India, and the Emerging Global Order, Carnegie Endowment for International Peace: Washington.
- S. Raghavan, (2013) 'Stability in Southern Asia: India's Perspective', in A. Tellis and S. Mirski (eds.), Crux of Asia: China, India, and the Emerging Global Order, Carnegie Endowment for International Peace: Washington.
- Li Li, (2013) 'Stability in Southern Asia: China's Perspective', in A. Tellis and S. Mirski (eds.), Crux of Asia: China, India, and the Emerging Global Order, Carnegie Endowment for International Peace: Washington.
- IV: India in South Asia: Debating Regional Strategies
- S. Muni, (2003) 'Problem Areas in India's Neighbourhood Policy', in South Asian Survey, Vol. 10 (2), pp. 185-196.
- S. Cohen, (2002) India: Emerging Power, Brookings Institution Press.
- V. Sood, (2009) 'India and regional security interests', in Alyssa Ayres and C. Raja Mohan (eds), Power realignments in Asia: China, India, and the United States, New Delhi: Sage.
- M. Pardesi, (2005) 'Deducing India's Grand Strategy of Regional Hegemony from Historical and Conceptual Perspectives', IDSS Working Paper, 76,
- D. Scott, (2009) 'India's "Extended Neighbourhood" Concept: Power Projection for a Rising Power', in India Review, Vol. 8 (2), pp. 107-143
- 112
- V: India's Negotiating Style and Strategies: Trade, Environment and Security Regimes
- S. Cohen, (2002) 'The World View of India's Strategic Elite', in S. Cohen, India: Emerging Power, Brookings Institution Press, pp. 36-65.
- A. Narlikar, (2007) 'All that Glitters is not Gold: India's Rise to Power', in Third World Quarterly, Vol. 28 (5) pp. 983 – 996.
- N. Dubash, (2012) 'The Politics of Climate Change in India: Narratives of Enquiry and Cobenefits', Working Paper, New Delhi: Centre for Policy Research.
- N. Jayaprakash, (2000) 'Nuclear Disarmament and India', in Economic and Political Weekly, Vol. 35 (7), pp. 525-533.
- P. Bidwai, (2005) 'A Deplorable Nuclear Bargain', in Economic and Political Weekly, Vol. 40 (31), pp. 3362-3364.
- A. Anant, (2011) 'India and International Terrorism', in D. Scott (ed.), Handbook of India's International Relations, London: Routledge, pp. 266-277.
- VI: India in the Contemporary Multipolar World
- R. Rajgopalan and V. Sahni (2008), 'India and the Great Powers: Strategic Imperatives, Normative Necessities', in South Asian Survey, Vol. 15 (1), pp. 5–32.
- C. Mohan, (2013) 'Changing Global Order: India's Perspective', in A. Tellis and S. Mirski (eds.), Crux of Asia: China, India, and the Emerging Global Order, Carnegie Endowment for International Peace: Washington.
- A. Narlikar, (2006) 'Peculiar Chauvinism or Strategic Calculation? Explaining the Negotiating Strategy of a Rising India', in International Affairs, Vol. 82 (1), pp. 59-76.
- P. Mehta, (2009) 'Still Under Nehru's Shadow? The Absence of Foreign Policy Frameworks in India', in India Review, Vol. 8 (3), pp. 209–233.

## **Development Process and Social Movements in Contemporary India**

Code: PLS-A-DSE-5-B(2)-TH+TU

### **Module I**

#### **I. Development Process since Independence**

- a. State and planning
- b. Liberalization and reforms

#### **II. Industrial Development Strategy and its Impact on the Social Structure**

- a. Mixed economy, privatization, the impact on organized and unorganized labour
- b. Emergence of the new middle class
- III. Agrarian Development Strategy and its Impact on the Social Structure
  - a. Land Reforms, Green Revolution
  - b. Agrarian crisis since the 1990s and its impact on farmers

## Module II

### IV. Social Movements

Social movements and New Social movements

Approaches to the study of social movements: Marxist theory, Gandhian theory, Resource Mobilisation theory, Relative Deprivation theory

### V. Globalisation and Social Movements in India (18classes)

Environmental movements

Tribal movements

Women's movements

Civil rights movements

## Readings:

### I. The Development Process since Independence

A. Mozoomdar, (1994) 'The Rise and Decline of Development Planning in India', in T. Byres (ed.) *The State and Development Planning in India*. Delhi: Oxford University Press, pp. 73-108.

A. Varshney, (2010) 'Mass Politics or Elite Politics? Understanding the Politics of India's Economic Reforms' in R. Mukherji (ed.) *India's Economic Transition: The Politics of Reforms*, Delhi: Oxford University Press, pp 146-169.

P. Chatterjee, (2000) 'Development Planning and the Indian State', in Zoya Hasan (ed.), *Politics and the State in India*, New Delhi: Sage, pp.116-140.

P. Patnaik and C. Chandrasekhar, (2007) 'India: Dirigisme, Structural Adjustment, and the Radical Alternative', in B. Nayar (ed.), *Globalization and Politics in India*. Delhi: Oxford University Press, pp. 218-240.

P. Bardhan, (2005) 'Epilogue on the Political Economy of Reform in India', in *The Political Economy of Development in India*. 6th impression, Delhi: Oxford University Press.

T. Singh, (1979) 'The Planning Process and Public Process: a Reassessment', *R. R. Kale Memorial Lecture*, Pune: Gokhale Institute of Politics and Economics.

### II. Industrial development strategy and its impact on social structure

## Readings:

A. Aggarwal, (2006) 'Special Economic Zones: Revisiting the Policy Debate', in *Economic and Political Weekly*, XLI (43-44), pp.4533-36.

B. Nayar (1989) *India's Mixed Economy: The Role of Ideology and its Development*, Bombay: Popular Prakashan.

F. Frankel, (2005) 'Crisis of National Economic Planning', in *India's Political Economy (1947-2004): The Gradual Revolution*, Delhi: Oxford University Press, pp. 93-340.

L. Fernandes, (2007) *India's New Middle Class: Democratic Politics in an Era of Economic Reform*, Delhi: Oxford University Press.

S. Shyam, (2003) 'Organizing the Unorganized', in *Seminar*, [Footloose Labour: A Symposium on Livelihood Struggles of the Informal Workforce, 531] pp. 47-53.

S. Chowdhury, (2007) 'Globalization and Labour', in B. Nayar (ed.) *Globalization and Politics in India*, Delhi: Oxford University Press, pp.516-526.

V. Chibber, (2005) 'From Class Compromise to Class Accommodation: Labor's Incorporation into the Indian Political Economy' in R. Ray, and M.F. Katzenstein (eds.) *Social Movements in India*, Delhi: Oxford University Press, pp 32-60.

### III. Agrarian development strategy and its impact on social structure

#### Readings:

A. Desai, (ed.), (1986) *Agrarian Struggles in India after Independence*, Delhi: Oxford University Press, pp. xi-xxxvi.

F. Frankel, (1971) *India's Green Revolution: Economic Gains and Political Costs*, Princeton and New Jersey: Princeton University Press.

F. Frankel, (2009) *Harvesting Despair: Agrarian Crisis in India*, Delhi: Perspectives, pp. 161-169.

J. Harriss, (2006) 'Local Power and the Agrarian Political Economy' in Harriss, J. (ed) *Power Matters: Essays on Institutions, Politics, and Society in India*, Delhi. Oxford University Press, pp. 29-32.

K. Suri, (2006) 'Political economy of Agrarian Distress', in *Economic and Political Weekly*, XLI (16) pp. 1523-1529.

P. Joshi, (1979) *Land Reforms in India: Trends and Perspectives*, New Delhi: Allied publishers.

P. Appu, (1974) 'Agrarian Structure and Rural Development', in *Economic and Political Weekly*, IX (39), pp. 70 – 75.

P. Sainath, (2010) 'Agrarian Crisis and Farmers', Suicide', *Occasional Publication 22*, New Delhi: India International Centre (IIC).

M. Sidhu, (2010) 'Globalisation vis-à-vis Agrarian Crisis in India', in R. Deshpande and S. Arora, (eds.) *Agrarian Crises and Farmer Suicides (Land Reforms in India Series)*, New Delhi: Sage, pp. 149-174.

V. Sridhar, (2006) 'Why Do Farmers Commit Suicide? The Case Study of Andhra Pradesh', in *Economic and Political Weekly*, XLI (16).

### IV. Social Movements

G. Shah, (ed.), (2002) *Social Movements and the State*. New Delhi: Sage Publications.

R. Singh (2001), *Social Movements, Old and New: A Post-Modernist Critique*, New Delhi: Sage

P. Wignaraja (ed.), (1993), *New Social Movements in the South: Empowering the People*, New Delhi: Vistar

V. Globalisation and Social Movements in India

#### Readings:

G. Haragopal, and K. Balagopal, (1998) 'Civil Liberties Movement and the State in India', in

M. Mohanty, P. Mukherji and O. Tornquist, (eds.) *People's Rights: Social Movements and the State in the Third World* New Delhi: Sage, pp. 353-371.

M. Mohanty, (2002) 'The Changing Definition of Rights in India', in S. Patel, J. Bagchi, and K. Raj (eds.) *Thinking Social Sciences in India: Essays in Honour of Alice Thorner Patel*, New Delhi: Sage.

G. Omvedt, (2012) 'The Anti-caste Movement and the Discourse of Power', in N. Jayal (ed.) *Democracy in India*, New Delhi: Oxford India Paperbacks, sixth impression, pp. 481-508.

P. Ramana, (2011) 'India's Maoist Insurgency: Evolution, Current Trends and Responses', in M. Kugelman (ed.) *India's Contemporary Security Challenges*, Woodrow Wilson International Centre for Scholars Asia Programme, Washington D.C., pp. 29-47.

A. Ray, (1996) 'Civil Rights Movement and Social Struggle in India', in *Economic and Political Weekly*, XXI (28). pp. 1202-1205.

A. Roy, (2010) 'The Women's Movement', in N. Jayal and P. Mehta (eds.) *The Oxford Companion to Politics in India*, New Delhi: Oxford University Press, pp. 409-422.

N. Sundar, (2011) 'At War with Oneself: Constructing Naxalism as India's Biggest Security Threat', in M. Kugelman (ed.) *India's Contemporary Security Challenges*, Woodrow Wilson International Centre for Scholars Asia Programme, Washington D.C., pp. 46-68.

M. Weiner, (2001) 'The Struggle for Equality: Caste in Indian Politics', in A. Kohli. (ed.) *The Success of India's Democracy*, Cambridge: CUP, pp. 193-225.

S. Sinha, (2002) 'Tribal Solidarity Movements in India: A Review', in G. Shah. (ed.) *Social Movements and the State*, New Delhi: Sage, pp. 251-266.

#### **Additional Readings:**

- S. Banerjee, (1986) 'Naxalbari in Desai', in A.R. (ed.) *Agrarian Struggles in India After Independence*. Delhi: Oxford University Press, pp.566-588.
- B. Nayar, (ed.), (2007) *Globalization and Politics in India*. Delhi: Oxford University Press.
- S. Roy and K. Debal, (2004) *Peasant Movements in Post-Colonial India: Dynamics of Mobilization and Identity*, Delhi: Sage.
- G. Omvedt, (1983) *Reinventing Revolution, New Social Movements and the Socialist Tradition in India*, New York: Sharpe.
- G. Shah, (ed.), (2002) *Social Movements and the State*. New Delhi: Sage Publications.
- G. Shah, (2004) *Social Movements in India: A Review of Literature*, New Delhi: Sage Publications.
- G. Rath, (ed.), (2006) *Tribal development in India: The Contemporary Debate*, New Delhi: Sage Publications.
- J. Harris, (2009) *Power Matters: Essays on Institutions, Politics, and Society in India*. Delhi: Oxford University press.
- K. Suresh, (ed.), (1982) *Tribal Movements in India*, Vol I and II, New Delhi: Manohar (emphasis on the introductory chapter).
- M. Mohanty, P. Mukherji and O. Tornquist, (1998) *People's Rights: Social Movements and the State in the Third World*. New Delhi: Sage Publications.
- M. Rao, (ed.), (1978) *Social Movements in India*, Vol. 2, Delhi: Manohar.
- N. Jayal, and P. Mehta, (eds.), (2010) *The Oxford Companion to Politics in India*, Delhi: Oxford University Press.
- P. Bardhan, (2005) *The Political Economy of Development in India*, 6th impression, Delhi: Oxford University Press.
- R. Mukherji, (ed.), (2007) *India's Economic Transition: The Politics of Reforms*, Delhi: Oxford University Press.
- R. Ray and M. Katzenstein, (eds.), (2005) *Social Movements in India*, Delhi: Oxford University Press.
- S. Chakravarty, (1987) *Development Planning: The Indian Experience*, Delhi: Oxford University Press.

## **Public Policy in India**

Code: PLS-A-DSE-6-A(3)-TH+TU

### **Module I**

1. Introduction to Policy Analysis
2. The Analysis of Policy vis-à-vis the Theories of State

### **Module II**

3. Political Economy and Policy: Interest Groups and Social Movements.
4. Ideology and Policy: Nehruvian Vision, Economic Liberalisation and recent developments

#### **Readings:**

I Introduction to Policy Analysis

- Jenkins, B. (1997) 'Policy Analysis: Models and Approaches' in Hill, M. (1997) *The Policy Process: A Reader* (2nd Edition). London: Prentice Hall, pp. 30-40.
- Dye, T.R. (2002) *Understanding Public Policy*. Tenth Edition. Delhi: Pearson, pp.1-9, 32-56 and 312-329.
- Sapru, R.K. (1996) *Public Policy : Formulation, Implementation and Evaluation*. New Delhi: Sterling Publishers, pp. 26-46.
- Wildavsky, A. (2004), 'Rescuing Policy Analysis from PPBS' in Shafritz, J.M. & Hyde, A.C. (eds.) *Classics of Public Administration*. 5th Edition. Belmont: Wadsworth, pp.271-284.

II. The Analysis of Policy in the Context of Theories of State

- Dunleavy, P. and O'Leary, B. (1987) *Theories of the State*. London: Routledge.

McClennan, G. (1997) 'The Evolution of Pluralist Theory' in Hill, M. (ed.) *The Policy Process: A Reader*. 2nd Edition. London: Prentice Hall, pp. 53-61.

Simmie, J. & King, R. (eds.) (1990) *The State in Action: Public Policy and Politics*. London: Printer Publication, pp. 3-21 and 171-184.

Skocpol, T. et al (eds.) (1985) *Bringing the State Back In*. Cambridge: Cambridge University Press, pp. 3-43 and 343-366.

Dye, T.R. (2002) *Understanding Public Policy*. 10th Edition. Delhi: Pearson, pp. 11-31.

### III. Political Economy and Policy: Interest Groups and Social Movements.

Lukes, S. (1986) *Power*. Basil: Oxford, pp. 28-36.

Lukes, S. (1997) 'Three Distinctive Views of Power Compared', in Hill, M. (ed.), *The Policy Process: A Reader*. 2nd Edition. London: Prentice Hall, pp. 45-52.

Giddens, A. (1998) *The Third Way: The Renewal of Social Democracy*. Cambridge: Polity Press, pp. 27-64 and 99-118.

### IV. Ideology and Policy: Nehruvian Vision, Economic Liberalisation and recent developments

Basu Rumki (2015) *Public Administration in India Handates, Performance and Future Perspectives*, New Delhi, Sterling Publishers

Self, P. (1993) *Government by the Market? The Politics of Public Choice*. Basingstoke: MacMillan, pp. 1-20, 70-105, 113-146, 198-231 and 262-277.

Girden, E.J. (1987) 'Economic Liberalisation in India: The New Electronics Policy' in *Asian Survey*. California University Press. Volume 27, No. 11. Available at [www.jstor.org/stable/2644722](http://www.jstor.org/stable/2644722).

## Understanding Global Politics

Code: PLS-A-DSE-6-A(4)-TH+TU

### Module I

#### I. What Makes the World What it is

##### a. The Sovereign State System

##### i Evolution of the state system

##### ii The concept of Sovereignty

##### b. The Global Economy

##### i Discussing the Bretton Woods Institutions and WTO

##### ii Ideological underpinnings

##### iii Transnational Economic Actors

##### c. Identity and Culture

#### ii. What Drives the World Apart

##### a. Global Inequalities

##### b. Violence: Conflict, War and Terrorism

#### III. Why We Need to Bring the World Together

##### a. Global Environment b. Global Civil Society

## Readings:

I. What Makes the World What it is? a. The Sovereign State System

S. Elden, (2009) 'Why Is The World Divided Territorially?', in J. Edkins and M. Zehfuss (eds.) *Global Politics: A New Introduction*, New York: Routledge, pp. 192-219.

M. Shapiro, (2009) 'How Does The Nation- State Work?', in J. Edkins and M. Zehfuss (eds.) *Global Politics: A New Introduction*, New York: Routledge, pp. 220-243.

R. Mansbach and K. Taylor, (2012) 'The Evolution of the Interstate System and Alternative Global Political Systems', *Introduction to Global Politics*, 2nd edition, New York: Routledge, pp. 34-68.

D. Armstrong, (2008) 'The Evolution of International Society', in J. Baylis, S. Smith, and P. Owens (ed.) *The Globalization of World Politics: An Introduction to International Relations*, New York: Oxford University Press, pp. 36-52.

N. Inayatullah and D. Blaney, (2012) 'Sovereignty' in B. Chimni and S. Mallavarapu (ed.) *International Relations: Perspectives For the Global South*, New Delhi: Pearson, pp. 124-134.

b. The Global Economy

## Readings:

V. Peterson, (2009) 'How Is The World Organized Economically?', in J. Edkins and M. Zehfuss (eds.) *Global Politics: A New Introduction*, New York: Routledge, pp. 271- 293.

Bourke, (2009) 'Why Does Politics Turn Into Violence?', in J. Edkins And M. Zehfuss (eds.), *Global Politics: A New Introduction*, New York: Routledge, pp. 370-396.

Bajpai, (2012) 'Global Terrorism', in B. Chimni and S. Mallavarapu (ed.), *International Relations: Perspectives For the Global South*, New Delhi: Pearson, pp. 312-327.

R. Mansbach, and K. Taylor, (2012) 'The Causes of War and the Changing Nature Of Global Politics', in *Introduction to Global Politics*, 2nd edition, New York: Routledge, pp. 248-283.

R. Collin and P. Martin, 'Kinds Of Conflict: The World When Things Go Wrong', in *An Introduction To World Politics: Conflict And Consensus On A Small Planet*, London: Rowman & Littlefield Publishers, pp. 267-425.

III. Why We Need to Bring the World Together? a. Global Environment

## Readings:

S. Dalby, (2009) 'What Happens If We Do not Think In Human Terms?', in J. Edkins and M. Zehfuss (eds.), *Global Politics: A New Introduction*, New York: Routledge, pp. 45-69.

R. Collin and P. Martin, (2013) 'The Greening of A Blue Planet', in *An Introduction To World Politics: Conflict And Consensus On A Small Planet*, Maryland: The Rowman & Littlefield Publication Group, pp. 527-570.

A. Heywood, (2011) 'Global Environmental Issues', in *Global Politics*, London: Palgrave, 2011, pp. 383-411.

N. Carter, (2007) *The Politics of Environment: Ideas, Activism, Policy*, 2nd edition, Cambridge: Cambridge University Press, pp 13-81.

b. Global Civil Society

## Readings:

Zehfuss, (2009) 'What Can We Do To Change The World?', in J. Edkins and M. Zehfuss (eds.), *Global Politics: A New Introduction*, New York: Routledge, pp. 483-501.

N. Chandhoke, (2011) 'The Limits of Global Civil Society,' Available at [www.gcsknowledgebase.org/wp-content/uploads/2002chapter2.pdf](http://www.gcsknowledgebase.org/wp-content/uploads/2002chapter2.pdf), Accessed: 19.04.2013.

K. Mingst and J. Snyder (eds.), (2011) 'Transnational Issues', in *Essential Readings In World Politics*, 4th Edition, New York: W. W. Norton And Company, pp. 574-626.

M. Keck and K. Sikkink, (2007) 'Transnational Activist Networks,' in Robert J. Art and R. Jervis (eds.) *International Politics: Enduring Concepts and Contemporary Issues*, 8th Edition, London: Pearson, pp. 532-538.

M. Naim, (2007) 'The Five Wars Of Globalization', in R. Art and R. Jervis (eds.) *International Politics: Enduring Concepts And Contemporary Issues*, 8th Edition, London: Pearson, pp. 558-566.

S. Mallaby, (2007) 'NGOs: Fighting Poverty, Hurting the Poor', in R. Art and R. Jervis (eds.)

*International Politics: Enduring Concepts and Contemporary Issues*, 8th edition, New York: Pearson, pp. 539-545.

G. Lexter and S. Halperin (eds.), (2003) *Global Civil Society and Its Limits*, New York: Palgrave, pp. 1-21.

## **Citizenship in a Globalising World**

Code: PLS-A-DSE-6-B(3)-TH+TU

This course will explore theories of citizenship, the historical development of the concept and its practice of in an increasingly globalizing world.

### **Module I**

1. Classical conceptions of citizenship
2. The Evolution of Citizenship and the Modern State

### **Module II**

3. Citizenship and Diversity
4. Citizenship beyond the Nation-state: Globalization and global justice
5. The idea of cosmopolitan citizenship

### **Essential Readings**

- Acharya, Ashok. (2012) *Citizenship in a Globalising World*. New Delhi: Pearson.
- Beiner, R. (1995) *Theorising Citizenship*. Albany: State University of New York Press.
- Held, David (1995), *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance* (Stanford: Stanford University Press).
- Kymlicka, Will (1999), "Citizenship in an Era of Globalization: A Response to Held," in Ian Shapiro and Casiano Hacker-Cordon (eds.), *Democracy's Edges* (Cambridge, UK: Cambridge University Press).
- Oliver, D. and D. Heater (1994). *The Foundations of Citizenship*. London, Harvester Wheatsheaf.
- Scholte, Jan Aart (2000), *Globalization: A Critical Introduction* (New York: St. Martin's).
- Zolo, Danilo (1997), *Cosmopolis: Prospects for World Government* (Cambridge, UK: Polity Press).

## **Human Rights in a Comparative Perspective**

Code: PLS-A-DSE-6-B(4)-TH+TU

### **Module I**

#### **Human Rights: Theory and Institutionalization**

Understanding Human Rights: Three Generations of Rights  
Institutionalization: Universal Declaration of Human Rights  
Rights in National Constitutions: South Africa and India

#### **Issues:**

Torture: USA and India; Surveillance and Censorship: China and India; Terrorism and Insecurity of Minorities: USA and India

### **Module II**

#### **Structural Violence:**

Caste and Race: South Africa and India



Gender and Violence: India and Pakistan  
Adivasis/Aboriginals and the Land Question: Australia and India

### **READING LIST**

#### **Human Rights: Theory and Institutionalization**

Essential Readings:

I. Hoffman and P. Graham, (2006) 'Human Rights', *Introduction to Political Theory*, Delhi, Pearson, pp. 436-458.

SAHRDC (2006) 'Introduction to Human Rights'; 'Classification of Human Rights: An Overview of the First, Second, and Third Generational Rights', in *Introducing Human Rights*, New Delhi: Oxford University Press.

The Constitution of the Republic of South Africa, Chapter 2: Bill of Rights.

The Constitution of India, Chapter 3: Fundamental Rights

#### **Issues**

##### **Torture: USA and India**

Essential Readings:

M. Lippman, (1979) 'The Protection of Universal Human Rights: The Problem of Torture'

*Universal Human Rights*, Vol. 1(4), pp. 25-55

J. Lokaneeta, (2011) 'Torture in the TV Show 24: Circulation of Meanings'; 'Jurisprudence on Torture and Interrogations in India', in *Transnational Torture Law, Violence, and State Power in the United States and India*, Delhi: Orient Blackswan,

D. O'Byrne, (2007) 'Torture', in *Human Rights: An Introduction*, Delhi: Pearson, pp. 164-197.

##### **Surveillance and Censorship: China and India**

Essential Readings:

D. O'Byrne, (2007) 'Censorship', in *Human Rights: An Introduction*, Delhi: Pearson, pp. 106-138.

D. Lyon, (2008) Surveillance Society, Talk for Festival del Diritto, Piacenza, Italia, September 28, pp.1-7.

Fu Hualing, (2012) 'Politicized Challenges, Depoliticized Responses: Political Monitoring in China's Transitions', paper presented at a conference on States of Surveillance: Counter-Terrorism and Comparative Constitutionalism, at the University of New South Wales, Sydney, 13-14 December.

U. Singh, (2012) 'Surveillance Regimes in India', paper presented at a conference on States of Surveillance: Counter-Terrorism and Comparative Constitutionalism, at the University of New South Wales, Sydney, 13-14 December.

##### **Terrorism and Insecurity of Minorities: USA and India**

Essential Readings:

E. Scarry, (2010) 'Resolving to Resist', in *Rule of Law, Misrule of Men*, Cambridge: Boston Review Books, MIT, pp.1-53.

M. Ahmad, (2002) 'Homeland Insecurities: Racial Violence the Day after September 11', *Social Text*, 72, Vol. 20(3), pp. 101-116.

U. Singh, (2007) 'The Unfolding of Extraordinariness: POTA and the Construction of Suspect Communities', in *The State, Democracy and Anti-terror Laws in India*, Delhi: Sage Publications, pp.165-219

#### **Structural Conflicts**

##### **Caste and Race: South Africa and India**

Essential Readings:

A. Pinto, (2001) 'UN Conference against Racism: Is Caste Race?', in *Economic and Political Weekly*, Vol. 36(30)

D. O'Byrne, (2007) 'Apartheid', in *Human Rights: An Introduction*, Delhi: Pearson, pp. 241-262.

R. Wasserstorm, (2006), 'Racism, Sexism, and Preferential Treatment: An approach to the Topics', in R.

Goodin and P. Pettit, *Contemporary Political Philosophy: an Anthology*, Oxford: Blackwell, pp-549-574  
R. Wolfrum, (1998) 'Discrimination, Xenophobia and Racism' in J. Symonides, *Human Rights: New Dimensions and Challenges*, Aldershot, Ashgate/UNESCO, pp.181-198.

### **Gender and Violence: India and Pakistan**

Essential Readings:

A. Khan and R. Hussain, (2008), 'Violence Against Women in Pakistan: Perceptions and Experiences of Domestic Violence', *Asian Studies Review*, Vol. 32, pp. 239 – 253

K. Kannabiran (2012) 'Rethinking the Constitutional Category of Sex', in *Tools of Justice: Non-Discrimination and the Indian Constitution*, New Delhi, Routledge, pp.425-443

### **Adivasis/Aboriginals and the Land Question: Australia and India**

Essential Readings:

H. Goodall, (2011) 'International Indigenous Community Study: Adivasi Indigenous People in India', in A. Cadzow and J. Maynard (eds.), *Aboriginal Studies*, Melbourne: Nelson Cengage Learning, pp.254-259.

K. Kannabiran, (2012) 'Adivasi Homelands and the Question of Liberty', in *Tools of Justice: Non-Discrimination and the Indian Constitution*, New Delhi: Routledge, pp.242-271.

N. Watson (2011) 'Aboriginal and Torres Strait Islander Identities' in A. Cadzow and J. Maynard (eds.), *Aboriginal Studies*, Melbourne: Nelson Cengage Learning, pp.43-52.

W. Fernandes (2008) 'India's Forced Displacement Policy and Practice. Is Compensation up to its Functions?', in M. Cernea and H. Mathus (eds), *Can Compensation Prevent Impoverishment? Reforming Resettlement through Investments and Benefit-Sharing*, pp.181-207, New Delhi: Oxford University Press.

Additional Readings:

A. Laws and V. Iacopino, (2002) 'Police Torture in Punjab, India: An Extended Survey', in *Health and Human Rights*, Vol. 6(1), pp. 195-210

D. O'Byrne, (2007) 'Theorizing Human Rights', in *Human Rights: An Introduction*, Delhi, Pearson, pp.26-70.

J. Morsink, (1999) *The Universal Declaration of Human Rights: Origins, Drafting and Intent*, Philadelphia: University of Pennsylvania Press, pp. ix-xiv

J. Nickel, (1987) *Making Sense of Human Rights: Philosophical Reflections on the Universal Declaration of Human Rights*, Berkeley: University of California Press.

J. Goldman, (2005) 'Of Treaties and Torture: How the Supreme Court Can Restrain the Executive', in *Duke Law Journal*, Vol. 55(3), pp. 609-640.

J. Tsutsui and C. Wotipka, (2004) Global Civil Society and the International Human Rights Movement: Citizen Participation in Human Rights International Nongovernmental Organizations, in *Social Forces*, Vol. 83(2), pp. 587-620.

J. Rabben, (2001) Amnesty International: Myth and Reality, in *Agni*, No. 54, Amnesty International Fortieth Anniversary pp. 8-28

K. Mohanty, (2010) 'In Pursuit of People's Rights: An Introduction', in M. Mohanty et al., *Weapon of the Oppressed: Inventory of People's Rights in India*, New Delhi: Danish Books, pp.1-11

M. Cranston, (1973) *What are Human Rights?* New York: Taplinger

M. Ishay, (2004) *The History of Human Rights: From Ancient Times to the Globalization Era*, Delhi: Orient Blackswan.

R. Sharan, (2009) 'Alienation and Restoration of Tribal Land in Jharkhand in N Sundar (ed.) *Legal Grounds*, New Delhi: Oxford University Press, pp. 82-112

Text of UDHR available at <http://www.un.org/en/documents/udhr/index.shtml>

U. Baxi, (1989) 'From Human Rights to the Right to be Human: Some Heresies', in S. Kothari and H. Sethi (eds.), *Rethinking Human Rights*, Delhi: Lokayan, pp.181-166.

## **Skill Enhancement Courses**

### **Democratic Awareness through Legal Literacy**

Code: PLS-A-SEC-3-A(1)-TH

#### **Module I**

1. Laws relating to Criminal jurisdiction-provisions relating to filing an FIR, arrest, bail, search and seizure and some understanding of the questions of evidence and procedure in the Criminal Procedure Code.
2. Offences under IPC.
3. India: Personal laws. Customary Laws
4. Laws relating to Dowry, sexual harassment and violence against women.

#### **Module II**

5. Laws relating to consumer rights.
6. Right to Information.
7. Laws relating to Cybercrimes.
8. Anti-terrorist laws: Implications for security and human rights.

#### **Readings:**

Pandey, (2008) 'Laws Relating to Criminal Justice: Challenges and Prospects', in K. Sankaran and U. Singh, *Towards Legal Literacy*, New Delhi: Oxford University Press, pp.61-77. SAHRDC, (2006) 'Reporting a Crime: First Information Report', in *Oxford Handbook of Human Rights and Criminal Justice in India - The system and Procedure*, New Delhi: Oxford University Press, pp.16-26.

SAHRDC, (2006) 'Bail', in *Oxford Handbook of Human Rights and Criminal Justice in India - The system and Procedure*, New Delhi: Oxford University Press, pp.59-71.

SAHRDC, (2006) 'Detention', in *Oxford Handbook of Human Rights and Criminal Justice in India - The system and Procedure*. New Delhi: Oxford University Press, pp.72-84.

P. Mathew, (2003) *Your Rights if you are Arrested*, New Delhi. Indian Social Institute.

P. Mathew, (2002) *The Law on Atrocities Against Scheduled Castes and Scheduled Tribes*, New Delhi: Indian Social Institute.

K. Saxena, (2011) 'Dalits', in M. Mohanty et al., *Weapon of the Oppressed, Inventory of People's Rights in India*. Delhi: Danish Books, Pp.15-38

K. Saxena, (2011) 'Adivasis', in M. Mohanty et al., *Weapon of the Oppressed, Inventory of People's Rights in India*, Delhi: Danish Books, Pp.39-65.

S. Durrany, (2006) *The Protection of Women From Domestic Violence Act 2005*, New Delhi: Indian Social Institute.

V. Kumari, (2008) 'Offences against Women', in K, Sankaran and U. Singh (eds.) *Towards Legal Literacy*, New Delhi: Oxford University Press.

P. D. Mathew (2004) *The Measure to Prevent Sexual Harassment of Women in Work Place*. New Delhi: Indian Social Institute.

D. Srivastva, (2007) 'Sexual Harassment and Violence against Women in India: Constitutional and Legal Perspectives', in C. Kumar and K. Chockalingam (eds) *Human Rights, Justice, and Constitutional Empowerment*, Delhi: Oxford University Press.

S. Naib, (2013) 'Right to Information Act 2005', in *The Right to Information in India*, New Delhi: Oxford University Press, Available at

[http://www.humanrightsinitiative.org/publications/rti/guide\\_to\\_use\\_rti\\_act\\_2005\\_English2012\\_light\\_Aspire.pdf](http://www.humanrightsinitiative.org/publications/rti/guide_to_use_rti_act_2005_English2012_light_Aspire.pdf).

#### Bare Acts:

*Consumer Protection Act, 1986*, Available at

[http://chdsla.gov.in/right\\_menu/act/pdf/consumer.pdf](http://chdsla.gov.in/right_menu/act/pdf/consumer.pdf).

*Criminal law Amendment Act, 2013*, Available at

[http://egazette.nic.in/WriteReadData/2013/E\\_17\\_2013\\_212.pdf](http://egazette.nic.in/WriteReadData/2013/E_17_2013_212.pdf) , Accessed: 10.04.2013.

*Protection of Women Against Domestic Violence Act, 2005*, Available at

<http://wcd.nic.in/wdvact.pdf>.

*Right to Information Act, 2005*, Available at <http://righttoinformation.gov.in/rti-act.pdf>.

*Scheduled Castes and Scheduled Tribes Prevention of Atrocities Act, 1989*, Available at

<http://tribal.nic.in/writereaddata/linkimages/poaact989E4227472861.pdf>.

*Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006*, Available at <http://tribal.gov.in/writereaddata/mainlinkFile/File1033.pdf>.

*The Persons with Disabilities (Equal Opportunities, Protection of Rights, Full Participation) Act, 1995*, Available at

[http://bhind.nic.in/Sparsh\\_disability%20act%201995.pdf](http://bhind.nic.in/Sparsh_disability%20act%201995.pdf).

*The Right of Children to Free and Compulsory Education Act, 2009*, Available at

<http://www.delta.org.in/form/rte.pdf>.

*The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Bill, 2012*, Available at

[http://164.100.24.219/BillsTexts/LSBillTexts/PassedLoksabha/144C\\_2010\\_LS\\_Eng.pdf](http://164.100.24.219/BillsTexts/LSBillTexts/PassedLoksabha/144C_2010_LS_Eng.pdf).

*Criminal Law Amendment Act, 2013*, Available at

[mha.nic.in/pdfs/TheCrimnalLaw030413.pdf](http://mha.nic.in/pdfs/TheCrimnalLaw030413.pdf) File Format: PDF/Adobe Acrobat – Quick View.

## Understanding the Legal System

Code: PLS-A-SEC-3-A(2)-TH

### Module I

- 1) Outline of the legal system in India
- 2) System of Courts/tribunals and their jurisdiction in India-Criminal and civil courts, writ jurisdiction.
- 3) Specialized Courts such as juvenile courts, mahila courts and tribunals.

### Module II

- 4) Role of the police and executive in criminal law administration.
- 5) Alternate dispute mechanisms such as Lok Adalats, non-formal mechanisms.

#### Readings:

*Creating Legal Awareness*, edited by Kamala Sankaran and Ujjwal Singh (Delhi: OUP, 2007)

S..K. Agarwala, *Public Interest Litigation in India*, K.M. Munshi Memorial Lecture, Second Series, Indian Law Institute, Delhi, 1985.

Asha Bajpai, *Child Rights in India : Law, Policy, and Practice*, Oxford University Press, New Delhi, 2003

B.L. Wadhera, *Public Interest Litigation - A Handbook*, Universal, Delhi, 2003.

P.C. Rao and William Sheffiled *Alternate Dispute Resolution: What it is and How it Works*, Universal Law Books and Publishers, Delhi, 2002

V.N. Shukla's *Constitution of India* by Mahendra P. Singh, Eastern Book Co. 10th edition.

Parmanand Singh, 'Access to Justice and the Indian Supreme Court', 10 & 11 Delhi Law Review 156, 1981-82.

J. Kothari, (2005) 'Criminal Law on Domestic Violence', *Economic and Political Weekly*, Vol. 40(46), pp. 4843-4849.

H. Mander, and A. Joshi, *The Movement for Right to Information in India, People's Power for the Control of Corruption*. Available at <http://www.rtgateway.org.in/Documents/References/English/Reports/12.%20An%20article%20on%20RTI%20by%20Harrish%20Mander.pdf>.

P. Mathew, and P. Bakshi, (2005) '*Indian Legal System*', New Delhi: Indian Social Institute.

P. Mathew, and P. Bakshi, (2005) '*Women and the Constitution*', New Delhi: Indian Social Institute.

N. Menon, (2012) 'Sexual Violence', in *Seeing Like a Feminist* New Delhi: Zubaan and Penguin, pp. 113-146.

M, Mohanty et al. (2011) *Weapon of the Oppressed, Inventory of People's Rights in India*. Delhi: Danish Books.

Centre for Good Governance, (2008) *Right to Information Act, 2005: A Citizen's Guide*, Available at <http://www.rtgateway.org.in/Documents/Publications/A%20CITIZEN'S%20GUIDE.pdf>,

Pandey, (2004) *Rights of the Consumer*. New Delhi: Indian Social Institute.

Pandey, (2008) 'Laws Relating to Criminal Justice: Challenges and Prospects', in K. Sankaran and U. Singh, *Towards Legal Literacy*, New Delhi: Oxford University Press, pp.61-77.

SAHRDC, (2006) 'Reporting a Crime: First Information Report', in *Oxford Handbook of Human Rights and Criminal Justice in India- The system and Procedure*, New Delhi: Oxford University Press, pp.16-26.

SAHRDC, (2006) 'Bail', in *Oxford Handbook of Human Rights and Criminal Justice in India- The system and Procedure*, New Delhi: Oxford University Press, pp.59-71.

SAHRDC, (2006) 'Detention', in *Oxford Handbook of Human Rights and Criminal Justice in India- The system and Procedure*. New Delhi: Oxford University Press, Pp.72-84.

P. Mathew, (2003) *Your Rights if you are Arrested*, New Delhi. Indian Social Institute

## Legislative Practices and Procedures

Code: PLS-A-SEC-4-B(1)-TH

### Module I

- 1) Members of Parliament: Powers and Privileges-Constituency Work.
- 2) State legislative Assemblies: Powers and functions.
- 3) Functionaries of rural and urban local self-government from Zila Parishad, Municipal Corporation to Panchayat/ Ward.

### Module II

- 4) How a bill becomes a law, role of standing committees in reviewing a bill, legislative consultants, the framing of rules and regulations.
- 5) Types of committees.
- 6) Role of committees in reviewing government finances, policy, programmes and legislation.
- 7) Powers and functions of people's representative at different tiers of governance

### Readings:

M. Madhavan, and N. Wahi, (2008) *Financing of Election Campaigns* PRS, Centre for Policy Research, New Delhi, Available at: [http://www.prsindia.org/uploads/media/conference/Campaign\\_finance\\_brief.pdf](http://www.prsindia.org/uploads/media/conference/Campaign_finance_brief.pdf), Accessed: 19.04.2013 S.

Vanka, (2008) Primer on MPLADS, Centre for Policy Research, New Delhi, Available at <http://www.prsindia.org/parliamenttrack/primers/mplads-487/>, Accessed: 19.04.2013

H. Kalra, (2011) Public Engagement with the Legislative Process PRS, Centre for Policy Research, New Delhi, Available at: <http://www.prsindia.org/administrator/uploads/media/Conference%202011/Public%20Engagement%20with%20the%20Legislative%20Process.pdf>, Accessed: 19.04.2013.

Government of India (Lok Sabha Secretariat), (2009) Parliamentary Procedures (Abstract Series), Available at <http://164.100.47.132/LssNew/abstract/index.aspx>, Accessed: 19.04.2013

The legislative process

### Readings:

Government of India, (Ministry of Parliamentary Affairs), (2009) Legislation, Parliamentary Procedure, Available at [http://mpa.nic.in/Manual/Manual\\_English/Chapter/chapter-09.htm](http://mpa.nic.in/Manual/Manual_English/Chapter/chapter-09.htm), Accessed: 19.04.2013

Government of India, (Ministry of Parliamentary Affairs) (2009), Subordinate Legislation, Parliamentary Procedure, Available at: [http://mpa.nic.in/Manual/Manual\\_English/Chapter/chapter-11.htm](http://mpa.nic.in/Manual/Manual_English/Chapter/chapter-11.htm) Accessed: 19.04.2013

D. Kapur and P. Mehta, (2006) 'The Indian Parliament as an Institution of Accountability', Democracy, Governance and Human Rights, Programme Paper Number 23, United Nations Research Institute for Social Development, Available at: [http://www.unrisd.org/UNRISD/website/document.nsf/240da49ca467a53f80256b4f005ef245/8e6fc72d6b546696c1257123002fcceb/\\$FILE/KapMeht.pdf](http://www.unrisd.org/UNRISD/website/document.nsf/240da49ca467a53f80256b4f005ef245/8e6fc72d6b546696c1257123002fcceb/$FILE/KapMeht.pdf), Accessed: 19.04.2013

O. Agarwal and T. Somanathan, (2005) 'Public Policy Making in India: Issues and Remedies', Available at: [http://www.cprindia.org/admin/paper/Public\\_Policy\\_Making\\_in\\_India\\_14205\\_TV\\_SOMANATHAN.pdf](http://www.cprindia.org/admin/paper/Public_Policy_Making_in_India_14205_TV_SOMANATHAN.pdf), Accessed: 19.04.2013

B. Debroy, (2001) 'Why we need law reform' Seminar January.

Legislative Committees

### Readings:

P. Mehta, 'India's Unlikely Democracy: The Rise of Judicial Sovereignty', Journal of Democracy, Vol. 18(2), pp.70-83. Government link: <http://loksabha.nic.in/>; <http://rajyasabha.nic.in/>; <http://mpa.nic.in/>

K. Sanyal, (2011) Strengthening Parliamentary Committees PRS, Centre for Policy Research, New Delhi, Available at: <http://www.prsindia.org/administrator/uploads/media/Conference%202011/Strengthening%20Parliamentary%20Committees.pdf>, Accessed: 19.04.2013

## Elementary Aspects of Social Research

Code: PLS-A-SEC-4-B(2)-TH

### Module I

1. Fundamental issues in Research Methodology: concepts, variables, proposition and hypotheses; hypothesis construction and verification; measurement – scales; ethics in social research.
2. Research design: definition, purpose of research, unit of analysis, fallacy (ecological fallacy and fallacy of reductionism), factors affecting research design.
3. Sources and techniques of data collection -- qualitative and quantitative; Sampling –different types; Basic statistical methods – types of statistics; measures of central tendencies and measures of dispersion; graphic representation of data.

## Module II

4. Participatory field research: Modes and methods of participant observation; advantages and limitations; Case study: definition; types; steps involved in the method; uses. Focus group method: nature and uses; role of the researcher.

5. Survey method: Definition, types; techniques of survey research: Pilot survey; interviewing – techniques; different types; qualities of a good interviewer; questionnaire – framing a questionnaire; problem of non-response; advantages and disadvantages of survey method.

6. Aggregate data analysis: Sources of aggregate data; uses of aggregate data; advantages of aggregate data; fallacy of inference. Experimental design: key concepts in experimental design; steps and planning the research; issues of equivalence and validity; classical experimental design.

[The Course may be supplemented with the use of computers though it is not obligatory].

### Readings:

R. Kumar, Research Methodology: A Step-by-Step Guide for Beginners, Sage, 2010.

W.L. Neuman, Social Research Methods: Qualitative and Quantitative Approaches, Pearson.

D. E. McNabb, (2004) Research Methods for Political Science- Quantitative and Qualitative Methods, New Delhi: Prentice-Hall of India Pvt. Ltd.

R. Chatterjee, (1979) Methods of Political Enquiry, Calcutta: The World Press Pvt. Ltd., 1979.

---

## University of Calcutta

### **Final Draft BA (General)-CBCS Syllabus in Political Science, 2018**

**Core Courses\* (4 courses provided). Discipline-specific Elective (4 courses provided); Skill Enhancement(4 courses provided).**[Students will also have to take courses from other subject/s]

\*Core Courses mentioned hereunder are to be treated as the Generic Elective Courses of students pursuing Honours in a subject *other than Political Science*.

- ◆ ^Each course carries 80 marks--- theoretical and tutorial (plus 10 marks each for Attendance and Internal Assessment).
- ◆ 6 credit course: Minimum 30 classes for Theory and 15 contact hours for Tutorial per module. 2 credit course: 30 teaching/lecture hours in total.
- ◆ Core, DSE (and GE) Course: 6 credits (5 Theoretical + 1 Tutorial-related).
- ◆ Skill Enhancement/Skill-based Courses: 2 credits (no Tutorial).

^End Semester Assessment--- 65 marks for theoretical segment: 50 marks for subjective/descriptive questions + 15 marks for the category of 1 mark-questions. Question Pattern for subjective/descriptive segment of 50 marks: 2 questions (within 100 words; one from each module) out of 4 (10 x 2 = 20) + 2 questions (within 500 words; one from each module) out of 4 (15 x 2 = 30).>>For Skill Enhancement Courses the last component would carry 6 questions--- 15 marks each--- out of which 3 (at least one from each module) to be attempted because such courses have no Tutorial.

15 marks for tutorial-related segments as suggested below (any one item from each mode):

Any one of the following modes: i) Written mode: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/equivalent Comprehension/equivalent Quotation or Excerpt Elaboration. ii) Presentation Mode: Report Presentation/Poster Presentation/Field work--- based on syllabus-related and/or current topics (May be done in groups)[The modes and themes and/or topics are decided by the concerned faculty of respective colleges.]

- ◆ **Core Courses in Semesters I-IV; Discipline-specific courses in Semesters V and VI; Skill Enhancement courses in Semesters III-VI.**

#### **IMPORTANT NOTES:**

- ◆ The Readings provided below (except Bengali books) include those of the UGC Model CBCS Syllabus in Political Science. For Course Objectives and references it is advised that the UGC model CBCS syllabus\* concerning relevant courses and topics be provided due importance and primarily consulted.

\*BA General [https://www.ugc.ac.in/pdfnews/0693504\\_BA-with-Pol-Science-.pdf](https://www.ugc.ac.in/pdfnews/0693504_BA-with-Pol-Science-.pdf)

- ◆ Bengali books are not necessarily substitutes, but supplementary to the English books.
- ◆ The format is strictly subject to the parameters of the Common Structural Format of the University.



## **General (Political Science) Courses**

### **Core:**

Introduction to Political Theory

Comparative Government and Politics

Government and Politics in India

International Relations

### **DSE:**

Public Administration

Indian Foreign Policy

Feminism: Theory and Practice

Human Rights: Theory and Indian Context

### **SEC:**

Legal Literacy

Elementary Dimensions of Research

Understanding the Legal System

Basic Research Methods

---

## Core Courses

### Introduction to Political Theory Code: PLS-G-CC-1-1-TH+TU

#### Module I

1. Political Science: nature and scope; Different approaches--- Normative, Behavioural, Post-Behavioural, Marxist, Feminist.
2. State: Contract theory; Idealist theory; Liberal theory; Marxist theory; Gandhian theory. Sovereignty of the State: Monistic and Pluralist theories. Doctrine of Popular Sovereignty.
3. Foundational concepts: Law; Right; Liberty; Equality--- meanings, sources, interrelationships.
4. Key concepts: Nationalism and Internationalism—meanings and features; Democracy--- meaning and nature.

#### Module II

5. Marxism: Dialectical and Historical Materialism; Class and Class Struggle; Theory of Revolution; Lenin's Theory of Imperialism.
6. Fascism: meaning, features, significance.
7. Political parties and interest groups: functions and role; Methods of representation: territorial, functional, proportional.

#### Readings:

R. Bhargava and A. Acharya eds., Political Theory: An Introduction.  
Mohit Bhattacharya and Amal Roy: Political Theory: Ideas and Institutions.  
S. Ramaswamy: Political Theory: Ideas and Concepts.  
O. P. Gauba: An Introduction to Political Theory.  
J. C. Johari: Political Theory  
S.P. Verma: Modern Political Theory.  
Maurice Cornforth: Dialectical Materialism.  
Robin Goodfellow: Marxism in a Nutshell.  
Tom Bottomore ed.: A Dictionary of Marxist Thought.  
V. I. Lenin: Imperialism--- The Highest Stage of Capitalism.  
Margaret Walters: Feminism: A Very Short Introduction.

মোহিত ভট্টাচার্য, বিশ্বনাথ ঘোষ: আধুনিক রাষ্ট্রবিজ্ঞান

অনাদি কুমার মহাপাত্র: রাষ্ট্রবিজ্ঞান

হিমাচল চক্রবর্তী: রাষ্ট্রবিজ্ঞান

সত্যসাধন চক্রবর্তী, নির্মলকান্তি ঘোষ: রাষ্ট্রবিজ্ঞান

দেবশীষ চক্রবর্তী: রাষ্ট্রতত্ত্ব ও প্রতিষ্ঠান

এমিল বার্নস: মার্কসবাদ (What is Marxism-এর অনুবাদ)

ভোলানাথ বন্দ্যোপাধ্যায়: দ্বন্দ্বমূলক বস্তুবাদ (মরিস কর্নফোর্থের Dialectical Materialism-এর অনুবাদ)

রাজশ্রী বসু ও বাসবী চক্রবর্তী (সম্পাদ): প্রসঙ্গ মানবীবিদ্যা

## **Comparative Government and Politics**Code: PLS-G-CC-2-2-TH+TU

### **Module I**

1 Political System: Liberal-democratic, Authoritarian .Socialist – forms of Political Systems: Unitary and Federal, Parliamentary and Presidential.

2. U.K.: (a) Basic features with major focus on Conventions and rule of Law.

(b) Legislature: composition and functions with major focus on the concept of parliamentary sovereignty. (c) Executive: composition and functions of the Cabinet with major focus on the role of the Prime Minister – the concept of Cabinet Dictatorship; (d) Role of the Crown;(e) Party system – role of the Opposition.

3. U.S.A.: (a) Basic features (b) US federalism (c) Bill of rights (d) Legislature: composition and functions with major focus on the Presiding Officers and Committee System; (e) The Executive: The President: election, powers and functions. US Cabinet: composition and functions; (f) Supreme Court: composition and functions; (g) Party system.

### **Module II**

4. PRC (1982 Constitution):(a) Significance of the Revolution (b) Basic features with special reference to General Principles(c) Communist Party: structure, functions, role (d) Rights and Duties of Citizen (e) The National Government: i) The Executive: President, Premier, State Council, ii) The Legislature: National People's Congress ,Standing Committee iii) The Judiciary.

5. Salient features of the Constitutions of Bangladesh,France,Switzerland.

### **Readings:**

S. A. Palekar: Comparative Government and Politics.

J. C. Johari: Major Modern Political Systems.

The Constitution of the People's Republic of China (1982)

D.C. Bhattacharya: Modern Political Constitutions.

A.C. Kapoor and K.K. Misra: Select Constitutions.

নিমাই প্রামাণিক: নির্বাচিত আধুনিক শাসন ব্যবস্থার রূপরেখা

হিমাচল চক্রবর্তী: তুলনামূলক রাজনীতি ও শাসন ব্যবস্থা

অনাদি কুমার মহাপাত্র: নির্বাচিত শাসন ব্যবস্থা ও রাজনীতি

নির্মলকান্তি ঘোষ: নির্বাচিত তুলনামূলক শাসন ব্যবস্থা ও রাজনীতি

দিনেশচন্দ্র ভট্টাচার্য: তুলনামূলক রাজনীতি ও বিদেশের শাসন ব্যবস্থা

## **Government and Politics in India**Code: PLS-G-CC-3-3-TH+TU

### **Module I**

1. Evolution of the Constitution (brief). The Preamble; Fundamental Rights. Directive Principles;

2. Union-State Relations – nature of federalism.

3. Union Executive: President, Vice-President, Prime Minister, Council of Ministers.

4. Union Legislature: Lok Sabha and Rajya Sabha--- organisation, functions, law Making procedure, Privileges, Committee System, Speaker.

5. The Judiciary: Supreme Court and High Courts--- composition and functions; Judicial Activism in India.
6. Constitutional amendment procedure.

## Module II

7. Government in States: Governor; Council of Ministers and the Chief Minister; State Legislature: composition and functions.
8. Local Government: rural and urban. Significance of 73<sup>rd</sup> and 74<sup>th</sup> Amendments.
9. Election Commission and election reforms.
10. Party System in India: national political parties: Ideologies and programmes. Recent trends in India: rise of regional political parties; coalition politics.
11. Regionalism: Nature, roots, types.
12. Varieties of social and political movements: a) caste; tribe; b) religion; c) environment; d) women's movements.

## Readings:

- B. Chakrabarty and K. P. Pandey: Indian Government and Politics.  
H. Abbas et al.: Indian Government and Politics.  
D. Basu: Introduction to the Constitution of India.  
M. V. Pylee: India's Constitution.  
Subhas Kashyap: Our Constitution.  
M.P. Singh and R. Saxena: Indian Politics: Contemporary Issues  
J. C. Johari: Indian Government and Politics (2 Vols.)  
Rajinder Singh: Social Movements in India.  
Devki Jain Ed., Indian Women.

অমল কুমার মুখোপাধ্যায় ও ভোলানাথ বন্দ্যোপাধ্যায়: সাম্প্রতিক ভারতীয় রাজনীতি ও প্রশাসন  
নিমাই প্রামাণিক: ভারতের শাসন ব্যবস্থা ও রাজনীতি  
অনাদি কুমার মহাপাত্র: ভারতের শাসন ব্যবস্থা ও রাজনীতি  
নির্মলকান্তি ঘোষ: ভারতের শাসন ব্যবস্থা ও রাজনীতি  
অনাদি কুমার মহাপাত্র: ভারতের রাজনীতিক ব্যবস্থা প্রকৃতি ও প্রয়োগ  
প্রভাত দত্ত: প্রসঙ্গ পঞ্চায়েত  
হিমাংশু ঘোষ: সমকালীন ভারতীয় রাজনীতি ও প্রশাসন  
শাস্বতী ঘোষ: সমতার দিকে আন্দোলনে নারী

## International RelationsCode: PLS-G-CC-4-4-TH+TU

## Module I

1. International Relations as a field of study. Approaches:
  - (a) Classical Realism (Hans Morgenthau) and Neo-Realism (Kenneth Waltz)
  - (b) Neo-Liberalism: Complex Interdependence (Robert O. Keohane and Joseph Nye)
  - (c) Structural Approaches: World Systems Approach (Immanuel Wallerstein) and Dependency School (Andre Gunder Frank)
  - (d) Feminist Perspective (J. Ann Tickner)
2. Cold War:(a) Second World War & Origins of Cold War; (b) Phases of Cold War: First Cold War; Rise and Fall of Detente Second Cold War.

## Module II

### 3. End of Cold War and Collapse of the Soviet Union

(b) Post Cold- War Era and Emerging Centers of Power (European Union, China, Russia and Japan)

### 4. India's Foreign Policy

(a) Basic Determinants (Historical, Geo-Political, Economic, Domestic and Strategic); (b) India's Policy of Non-Alignment; (c) India as emerging Power

## Readings:

William, P., Goldstein, D. M. and Shafritz, J. M. (eds.): Classic Readings of International Relations.

Goldstein, J. and Pevehouse, J.C.: International Relations.

Art, R. J. and Jervis, R. (eds.): International Politics: Enduring Concepts and Contemporary Issues.

Jackson, R. and Sorenson, G.: Introduction to International Relations: Theories and Approaches.

Tickner, J. A.: Gendering World Politics: Issues and Approaches in the Post-Cold War Era.

Baylis, J. and Smith, S. (eds.): The Globalization of World Politics: An Introduction to International Relations.

Wenger, A. and Zimmermann, D. (eds.): International Relations: From the Cold World War to the Globalized World.

Vanaik, A.: India in a Changing World: Problems, Limits and Successes of Its Foreign Policy. .

Basu, Rumki (ed.): International Politics: Concepts theories and Issues, New Delhi.

Mewmillians, W.C. and Piotrowski, H.: The World since 1945: A History of International Relations.

Smith, M., Little, R. and Shackleton, M. (eds.): Perspectives on World Politics.

Ganguly, S. (ed.): India's Foreign Policy: Retrospect and Prospect.

গৌতম বসু: আন্তর্জাতিক সম্পর্ক: তত্ত্ব ও বিবর্তন

রাধারমণ চক্রবর্তী ও সুকল্পা চক্রবর্তী: সমসাময়িক আন্তর্জাতিক সম্পর্ক

পুরুষোত্তম ভট্টাচার্য ও অনিন্দ্যজ্যোতি মজুমদার (সম্পাদিত): আন্তর্জাতিক সম্পর্কের রূপরেখা

রুমকী বসু ও অঞ্জনা ঘোষ: সম্মিলিত জাতিপুঞ্জ

অনীক চট্টোপাধ্যায়: ঠাণ্ডামুকের পর আন্তর্জাতিক সম্পর্ক

নির্মলকান্তি ঘোষ: আন্তর্জাতিক সংগঠন ও জাতিপুঞ্জ

গৌরীপদ ভট্টাচার্য: আন্তর্জাতিক সম্পর্ক

শক্তি মুখার্জী, ইন্দ্রানী মুখার্জী: আন্তর্জাতিক সম্পর্ক

---

## Discipline-specific Electives

The choice is between Courses in 1A and 1B and between Courses in 2A and 2B--- one each from the two segments offered.

**Public Administration** Code: PLS-G-DSE-A-5-1A-TH+TU

## Module I

1. Nature and Scope of Public Administration.

2. Key Concepts: Hierarchy; Unity of Command; Span of Control; Authority;

Centralization and Decentralization; Line and Staff; Communication and Control; Delegation;

Decision-making; Coordination and Leadership.

3. Major Approaches: New Public Administration; Comparative Public Administration;

Development Administration; New Public Management.

## Module II

4. Bureaucracy: Views of Weber and Marx.
5. Public Policy: Formulation and Implementation.
6. Major Programmes (basic features and objectives): MGNREGA; Sarva Shiksha Abhiyan; National Rural Health Mission.

### Readings:

Mohit Bhattacharya: Public Administration: Structure, Process and Behaviour.  
A. Avasthi and S. Avasthi: Public Administration.  
M. Bhattacharya: Restructuring Public Administration.  
M.P. Sharma: Public Administration in Theory and Practice.  
Rumki Basu: Public Administration: Concepts and Theories.  
Sapru, R.K. Public Policy: Formulation, Implementation and Evaluation. New Delhi: Sterling Publishers.

মোহিত ভট্টাচার্য ও বিশ্বনাথ ঘোষ: জনপ্রশাসন ও পরিকল্পনা  
সোমা ঘোষ: জনপ্রশাসন: তত্ত্ব ও প্রয়োগ  
রাজশ্রী বসু: জনপ্রশাসন

---

## Indian Foreign PolicyCode: PLS-G-DSE-A-5-1B-TH+TU

### Module I

1. Foreign Policy: meaning and determinants.
2. National Interest as key concept in foreign policy.
3. Instruments of foreign policy: diplomacy; propaganda; military.

### Module II

4. Evolution of Indian foreign policy.
5. Basic principles of Indian foreign policy.
6. India and her neighbours: Bangladesh; Pakistan; Nepal; Sri Lanka.

### Readings:

K.K Ghai, *International Relations: Theory and Practice of International Politics*  
Vinay Kumar Malhotra, *International Relations*, Fourth edition, Vikas Publications.  
Peu Ghosh, *International Relations*, Prentice Hall Publishers.  
Pushpesh Pant, *International Relations in the Twenty-first Century*, Tata McGraw Hill Publishers.  
Prakash Chander and Prem Arora, *International Relations and Comparative Politics*, Cosmos Bookhive Publications.  
Aneek Chatterjee, *Neighbours, Major Powers and Indian Foreign Policy*, Orient Blackswan.  
Prem Arora, *Foreign Policy of India*, Cosmos Bookhive Publishers.

## Feminism: Theory and PracticeCode: PLS-G-DSE-B-6-2A-TH+TU

### Module I

1. Distinction between sex and gender. Biologism and Social Constructivism.
2. Patriarchy and Feminism.
3. Theoretical foundation: Liberal; Socialist; Marxist; Radical Feminism; New Feminist ideas

## Module II

4. Traditional historiography and Feminist critiques.
5. Social reform movements and position of women: Indian context.
6. Gender relations in family: consumption; entitlement; property rights.

### Readings:

- B. Hooks, (2010) 'Feminism: A Movement to End Sexism', in C. Mc Cann and S. Kim (eds), *The Feminist Reader: Local and Global Perspectives*, New York: Routledge, pp. 51-57
- R. Delmar, (2005) 'What is Feminism?', in W. Kolmar & F. Bartkowski (eds) *Feminist Theory: A Reader*, pp. 27-37.
- U. Chakravarti, (2003) *Gendering Caste through a Feminist Lens*, Kolkata, Stree, pp. 139-159.
- C. MacKinnon, 'The Liberal State' from *Towards a Feminist Theory of State*, Available at <http://fair-use.org/catharine-mackinnon/toward-a-feminist-theory-of-the-state/chapter-8>
- N. Menon (2008) 'Gender', in R. Bhargava and A. Acharya (eds), *Political Theory: An Introduction*, New Delhi: Pearson, pp. 224-233.

রাজশ্রী বসু ও বাসবী চক্রবর্তী (সম্পাদিত): প্রসঙ্গ মানবীবিদ্যা

---

## Human Rights: Theory and Indian ContextCode: PLS-G-DSE-B-6-2B-TH+TU

### Module I

1. History of the idea of human rights; Evolution of generations of human rights.
2. Universal Declaration of Human Rights: provisions and significance.
3. UN and human rights: charters; UN Human Rights Commission; Vienna Declaration and Programme of Action.

### Module II

4. Indian Constitution and the foundation of rights.
5. National and State Human Rights Commissions: structure and functions.
6. Human rights in India: problems and remedies.

### Readings:

Universal Declaration of Human Rights, [www.un.org/en/udhrbook/pdf/udhr\\_booklet\\_en\\_web.pdf](http://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf)

Alok Kumar Meena, *Human Rights in India: Concepts and Concerns*, India: Pointer Publishers.  
 S.C. Joshi, *Human Rights: Concepts, Issues and Laws*, India: Akansha Publishing House.  
 Amit Bhattacharya and Bimal Kanti Ghosh (eds.), *Human Rights in India, Historical Perspective and Challenges Ahead*.  
 D. O'Byrne, (2007) 'Theorizing Human Rights', in *Human Rights: An Introduction*, Delhi, Pearson.  
 M. Ishay, (2004) *The History of Human Rights: From Ancient Times to the Globalization Era*, Delhi: Orient Blackswan.

## **Skill Enhancement Courses**

[The choice lies between Courses 1 and 2 of Section A and Courses 1 and 2 of Section B. One particular course in Gr. A --- between PLS-G-SEC-3/5-A(1)-TH and PLS-G-SEC-3/5-A(2)-TH is to be chosen either in Sem-III or in Sem-V. One particular course in Gr. B--- between PLS-G-SEC-4/6-B(1)-TH and PLS-G-SEC-4/6-B(2)-TH is to be chosen either in Sem IV or in Sem VI]

### **Legal Literacy**      Code: PLS-G-SEC-3-A(1)-TH

#### **Module I**

1. Legal Issues of Criminal Jurisdiction: History, Definition and Concept, Major Processes— Detention, Arrest, Bail, Search and Seizure.
2. Indian Penal Code: History, Definition. Major Aspects—Protection of Primary and Secondary Personal Rights, Criminal Conspiracy, Offences against the State, Offences related to Marriage.
3. Personal Laws: Laws related to Marriage (examples from Hindu, Islam and Christian Laws).

#### **Module II**

4. Consumer Rights Laws: Definition of Consumer Rights, Process of filing a complaint. Right to Information Act: provisions; importance.
5. Anti-Terror Laws: Meaning, Terrorist and Disruptive Activities (Prevention) (TADA) Act 1987, 2002 and Prevention of Terrorism (POTA) Act 2002.
6. Human Rights Laws: Meanings, Universal Declaration of Human Rights (UDHR), Human Rights Act of 1993, Issues of rights of Children and Women.

#### **Readings:**

K. Sankaran and U. Singh, *Towards Legal Literacy*, New Delhi: Oxford University Press, 2008. Articles on Laws relating to criminal justice and offences against Women.  
*Oxford Handbook of Human Rights and Criminal Justice in India- The system and Procedure*. New Delhi: Oxford University Press, 2006. Relevant articles on FIR, Detention, Bail.  
 M. Mohanty et al., *Weapon of the Oppressed, Inventory of People's Rights in India*, Delhi: Danish Books, 2011. Articles on Adivasis and Dalits.  
 S. Durrany, *The Protection of Women From Domestic Violence Act 2005*, New Delhi: Indian Social Institute, 2006.  
 V. Kumari, (2008) 'Offences Against Women', in K, Sankaran and U. Singh (eds.) *Towards Legal Literacy*, New Delhi: Oxford University Press.



P. D. Mathew, (2004) *The Measure to Prevent Sexual Harassment of Women in Work Place*. New Delhi: Indian Social Institute.

D. Srivastva, (2007) 'Sexual Harassment and Violence against Women in India: Constitutional and Legal Perspectives', in C. Kumar and K. Chockalingam (eds) *Human Rights, Justice, and Constitutional Empowerment*, Delhi: Oxford University Press.

S. Naib, (2013) 'Right to Information Act 2005', in *The Right to Information in India*, New Delhi: Oxford University Press, Available at [http://www.humanrightsinitiative.org/publications/rti/guide\\_to\\_use\\_rti\\_act\\_2005\\_English2012\\_light\\_Aspire.pdf](http://www.humanrightsinitiative.org/publications/rti/guide_to_use_rti_act_2005_English2012_light_Aspire.pdf).

**Bare Acts:**

*Consumer Protection Act, 1986*, [http://chdsla.gov.in/right\\_menu/act/pdf/consumer.pdf](http://chdsla.gov.in/right_menu/act/pdf/consumer.pdf).

*Criminal law Amendment Act, 2013*, [http://egazette.nic.in/WriteReadData/2013/E\\_17\\_2013\\_212.pdf](http://egazette.nic.in/WriteReadData/2013/E_17_2013_212.pdf) 10.04.2013.

*Protection of Women Against Domestic Violence Act, 2005*, <http://wcd.nic.in/wdvact.pdf>.

*Right to Information Act, 2005*, <http://righttoinformation.gov.in/rti-act.pdf>.

*Scheduled Castes and Scheduled Tribes Prevention of Atrocities Act, 1989*, <http://tribal.nic.in/writereaddata/linkimages/poaact989E4227472861.pdf>.

*Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006*, <http://tribal.gov.in/writereaddata/mainlinkFile/File1033.pdf>.

*The Persons with Disabilities (Equal Opportunities, Protection of Rights, Full Participation) Act, 1995*, [http://bhind.nic.in/Sparsh\\_disability%20act%201995.pdf](http://bhind.nic.in/Sparsh_disability%20act%201995.pdf).

*The Right of Children to Free and Compulsory Education Act, 2009*, <http://www.delta.org.in/form/rte.pdf>.

*The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Bill, 2012*, [http://164.100.24.219/BillsTexts/LSBillTexts/PassedLoksabha/144C\\_2010\\_LS\\_Eng.pdf](http://164.100.24.219/BillsTexts/LSBillTexts/PassedLoksabha/144C_2010_LS_Eng.pdf).

*Criminal Law Amendment Act, 2013*, [mha.nic.in/pdfs/TheCrimnalLaw030413.pdf](http://mha.nic.in/pdfs/TheCrimnalLaw030413.pdf) File Format: PDF/Adobe Acrobat –Quick View

---

## Elementary Dimensions of Research

Code: PLS-G-SEC-4-B(1)-TH

### Module I

1. Concepts, variables (dependent and independent), propositions and hypothesis.
2. Research design: definition, purpose of research, units of analysis, fallacies.
3. Ethics in research---issues and problems.
4. Research Report writing.

### Module II

4. Sources and Techniques of data collection – quantitative and qualitative data
5. Sampling: definition, probability and non-probability. Scales and Measurement
6. Statistical method of data analysis: descriptive and inferential (Overview). Graphic representation of data (Bar graph, Histogram, Pie Chart)

### Readings:

- R. Kumar, *Research Methodology: A Step-by-Step Guide for Beginners*, Sage pub., 2010.
- W.L. Neuman, *Social Research Methods: Qualitative and Quantitative Approaches*, Pearson.
- R. Chatterjee, (1979) *Methods of Political Enquiry*, Calcutta: The World Press Pvt. Ltd.

## **Understanding the Legal System** Code: PLS-G-SEC-5-A(2)-TH

### **Module I**

1. Historical background, procedures of Supreme Court and High Court in India (special focus on writ jurisdictions), Judicial Activism and Judicial Restraint.
2. Public Interest Litigation (PIL): Meaning, major features and Scope, principles, Major Guidelines for admitting PIL.
3. Administrative Tribunals: Concepts and major Features, tribunals for other matters.

### **Module II**

4. Subordinate Courts: Constitutional provisions, structure and jurisdiction, National Legal Services Authority, Lok Adalats, Family Courts and Gram Nyayalayas.
5. Elections Laws: Representation of People Act 1950, Representation of People Act 1951, Delimitation Act 2002.
6. Other Constitutional Dimensions: Anti-defection Laws (major provisions of 91<sup>st</sup> Amendment Act, 2003), Co-operative Societies (provisions of 97<sup>th</sup> Amendment Act), Mahila Courts.

### **Readings:**

*Creating Legal Awareness*, edited by Kamala Sankaran and Ujjwal Singh (Delhi: OUP, 2007)

Asha Bajpai, *Child Rights in India: Law, Policy, and Practice*, Oxford University Press, New Delhi, 2003.

B.L. Wadhwa, *Public Interest Litigation - A Handbook*, Universal, Delhi, 2003.

P.C. Rao and William Sheffield *Alternate Dispute Resolution: What it is and How it Works*, Universal Law Books and Publishers, Delhi, 2002

J. Kothari, (2005) 'Criminal Law on Domestic Violence', *Economic and Political Weekly*, Vol. 40(46), pp. 4843-4849.

H. Mander, and A. Joshi, *The Movement for Right to Information in India, People's Power for the Control of Corruption*, <http://www.rti-gateway.org.in/Documents/References/English/Reports/12.%20An%20article%20on%20RTI%20by%20Harsh%20Mander.pdf>.

M, Mohanty et al. (2011) *Weapon of the Oppressed, Inventory of People's Rights in India*. Delhi: Danish Books.

Centre for Good Governance, (2008) *Right to Information Act, 2005: A Citizen's Guide*, <http://www.rti-gateway.org.in/Documents/Publications/A%20CITIZEN'S%20GUIDE.pdf>

K. Sankaran and U. Singh, *Towards Legal Literacy*, New Delhi: Oxford University Press, 2008.

Oxford Handbook of Human Rights and Criminal Justice in India- The system and Procedure, New Delhi: Oxford University Press. Relevant articles.

## **Basic Research Methods** Code: PLS-G-SEC-6-B(2)-TH

### **Module I**

1. Case study.

2. Survey Approach: Interviewing- different types and forms, qualities of a good interviewer; Preparing questionnaire, types of questionnaire. Pilot Survey.
3. Focus Groups: role of researcher; uses and abuses.

## **Module II**

4. Experimental research: types. Aggregate Data analysis: sources, utility and limitations.
5. Content Analysis: major issues.
6. Participant observation: modes, advantages and disadvantages.

## **Readings:**

- R. Chatterjee, (1979) Methods of Political Enquiry, Calcutta: The World Press Pvt. Ltd.
- D. E. McNabb, (2004) Research Methods for Political Science- Quantitative and Qualitative Methods, New Delhi: Prentice-Hall of India Pvt. Ltd.
-

# UNIVERSITY OF CALCUTTA



**NISHAT ALAM**  
**Secretary,**  
Councils for Undergraduate Studies,  
University of Calcutta.

## SENATE HOUSE

87/1, College Street, Kolkata-700 073.  
Phone : 2257-3376, 2241-0071-74  
e-mail: u.g.councilsc.u@gmail.com  
Website: [www.caluniv.ac.in](http://www.caluniv.ac.in)

Ref. No. CUS/154/17

Dated the 26<sup>th</sup> May, 2017

**To**  
**The Principals**  
of all the Undergraduate Colleges  
offering B.Com (Honours & General) courses  
affiliated to the University of Calcutta.

Sir/Madam,

The undersigned is directed to forward you the University Notification No. CSR/26/17, dt. 26.05.2017 containing new course structure, syllabi and revised admission regulations for three-year B.Com. (*Honours & General*) Courses of Studies.

**The above shall be effective for the students getting admission to the three-year six-semester B.Com. (Honours & General) Courses of Studies under CBCS, from the academic session 2017-18 and onwards.**

The said notification along with detail course structure, syllabi and admission regulations are available in the Calcutta University website.

Thanking you,

Yours faithfully,

Encl.: C.U. Notification No. CSR/26/17, dt. 26.05.2017

(NISHAT ALAM)  
Secretary

*[Handwritten signature]*  
26/5/17



## **UNIVERSITY OF CALCUTTA**

### **Notification No. CSR/ 26 /17**

It is notified for information of all concerned that the Syndicate in its meeting dated 23.05.2017 (vide Item No.46) resolved to approve the **New Course Structure & Syllabi** and **revised Admission Regulations for the B.Com. (Honours and General)** courses of study under this University as laid down in the accompanying pamphlet.

The above shall be effective for the students getting admission to the 3-year 6-Semester B.Com. (Honours and General) courses of study under CBCS, from the academic session 2017-2018 and onwards.

SENATE HOUSE  
KOLKATA-700073  
The 26<sup>th</sup> May, 2017

  
(Prof. Dr. Rajagopal Dhar Chakraborti)

Registrar

## **PART-B**

### **Regulations relating to Admission for the Three-Year B.Com. (Honours & General) Courses of Studies conducted by the University of Calcutta**

#### **Admission Qualifications**

1. A candidate who has passed the Higher Secondary (10+2) or its equivalent Examination is eligible to seek admission to the 1<sup>st</sup> year of the 3-year B.Com. (Honours/General) Course of Studies provided he/she has also passed in English having full marks not being less than 100 and fulfills the conditions as laid down in clause 2.

Candidates who have passed the Higher Secondary (10+2) Vocational Examination in Business & Commerce conducted by the West Bengal State Council of Vocational Education and Training shall be eligible to seek admission to the B.Com. (General) 1<sup>st</sup> year Course of Studies under this University. However, no candidate shall be allowed admission after a lapse of more than 5 years from the year of passing the previous qualifying examination.

**(Explanation:** The year of admission shall not be taken into account while calculating five years from the year of passing the previous qualifying Examination).

For the purpose of determining eligibility for admission to the B.Com. Honours Courses, aggregate marks shall be calculated by adding the marks in top-four subjects in order of marks secured by a candidate. However, marks in compulsory Environmental Education/Studies shall not be taken into account for calculation of aggregate marks. However, If the subject "Environmental Science" is studied as an elective subject of 100 marks, it may be taken into account for the purpose of determining the aggregate marks.

2. (a) A candidate taking up B.Com. Honours Course in a subject must have obtained:
  - i. A minimum of 50% marks in the aggregate and 45% marks in the subject or related subject at the previous qualifying examination.

**OR**

- ii. 55% marks in the subject or related subject at the previous qualifying examination.

(b) However, candidates belonging to the Scheduled Caste or Scheduled Tribe Community taking up Honours Course of Study must have obtained a minimum of 40% marks in the aggregate or 40% marks in the subject or related subject at the previous qualifying examination, as the case may be.

(c) **Seat reservation for admission in the first year class of three-year degree courses of studies shall be guided by the West Bengal State Higher Educational Institutions (Reservation in Admission), Act, 2013 and the West Bengal State Higher Educational Institutions (Reservation in Admission) Rules, 2014.**

(d) Following subjects be treated as related subjects for admission to B.Com. Honours courses:

Accountancy, Business Economics including Business Mathematics, Business Organization, Mathematics, Business Mathematics, Economics, Statistics, Business Studies, Office and Secretarial Practice, Financial Accounting, Elements of Cost Accountancy & Auditing, Book Keeping, Commerce, Cost Accountancy & Principle of Management, Commercial Law and preliminaries of Auditing, Costing and Taxation.

(e) A candidate shall be allowed to take up B.Com. (General) Course if he/she had passed the subject(s) at the previous qualifying examination as mentioned below:

Accountancy/ Business Economics including Business Mathematics/ Business Organization/ Mathematics/ Economics/ Statistics/ Commerce/ Accounts/ Business Studies/ Financial Accounting/ Office and Secretarial Practice/ Elements of Cost Accountancy and Auditing/ Book Keeping/ Business Mathematics/ Cost Accountancy & Principle of Management, , Commercial Law and preliminaries of Auditing, Costing and Taxation.

3. Students who have passed the Higher Secondary (10+2) Examination or its equivalent from the All India Boards/Councils (i.e. CBSE, ISC and National Institute of Open Schooling) need not require to submit the Migration Certificate for getting Registration under this University.
4. A candidate who is admitted to the Honours or General Course of Studies may take any of the four DSE (Discipline Specific Elective) Courses, two courses in each of the 5<sup>th</sup> and 6<sup>th</sup> Semester (as offered by the College).

## 5. B.Com. Honours & General Course Curricula / Structure

### **B.Com. Honours Course Structure under Semesterised CBCS**

#### **Year I: Semester I**

		Marks	Credit Hours	
AECC 1.1Chg	<b>Language:</b> Communicative English - 50 Indian Language - 50	<b>100</b>	<b>2</b>	
GE 1.1 Chg	Microeconomics I & Statistics (50+50)	<b>100</b>	<b>6</b>	
CC 1.1 Chg	Business Laws	<b>100</b>	<b>6</b>	
CC 1.2 Chg	Principles of Management	<b>100</b>	<b>6</b>	
CC 1.1 Ch	Financial Accounting - I	<b>100</b>	<b>6</b>	

**26**

#### **Year 1: Semester II**

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	<b>100</b>	<b>6</b>	
CC2.1 Chg	Company Law	<b>100</b>	<b>6</b>	
CC 2.2 Chg	Marketing Management and Human Resource Management	<b>100</b>	<b>6</b>	
CC 2.1Ch	Cost and Management Accounting - I	<b>100</b>	<b>6</b>	

**24**

#### **Year 2: Semester III**

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	<b>100</b>	<b>4</b>	
GE 3.1 Chg	Business Mathematics & Statistics	<b>100</b>	<b>6</b>	
CC3.1 Ch	Financial Accounting II	<b>100</b>	<b>6</b>	
CC3.2 Ch	Indian Financial System	<b>100</b>	<b>6</b>	

**22**



## Year 2: Semester IV

		Marks	Credit Hours	
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	100	6	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	100	6	
CC 4.1 Ch	Taxation I	100	6	
CC 4.2 Ch	Cost and Management Accounting -II	100	6	

**24**

## Year 3: Semester V

		Marks	Credit Hours	
CC 5.1Ch	Auditing & Assurance	100	6	
CC 5.2 Ch	Taxation II	100	6	
DSE 5.1 A*	Economics II and Advanced Business Mathematics	100	6	
DSE 5.2 A*	Corporate Accounting	100	6	

**24**

### Options:

\*Or DSE 5.1 M (Consumer Behaviour and Sales Management -50+50)  
& DSE 5.2 M (Product & Pricing Management and Marketing Communication (50+50)

\*Or DSE 5.1T (Public Finance and Taxation)  
& DSE 5.2 T (Direct Tax: Laws and Practice)

\*Or DSE 5.1 e-B (Fundamentals of Computer )  
& DSE 5.2 e-B DBMS and System Analysis &Design (50+50)

### Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	<b>100</b>	<b>2</b>	
SEC 6.1Chg	Computerised Accounting and e-Filing of Tax Returns	<b>100</b>	<b>4</b>	
CC 6.1 Ch	Project Work	<b>100</b>	<b>6</b>	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	<b>100</b>	<b>6</b>	
DSE 6.2 A**	Financial Management	<b>100</b>	<b>6</b>	

**24**

**Chg:** Common for Honours and General; **Ch:** Core Course for Honours

#### Options:

\*\*Or DSE 6.1 M (Retail Management and Marketing of Services (50+50)  
& DSE 6.2 M (Rural Marketing and International Marketing (50+50)

\*\*Or DSE 6.1 T (Indirect Tax: Laws and Practices)  
& DSE 6.2 T (Tax Procedures and Planning)

\*\*Or DSE 6.1 e-B (Internet & WWW and Functional e-Business System (50+50)  
& DSE 6.2 e-B(Computer Applications and e-Business Applications – Practical (50+50)

### Summary for B.Com. Hons.

		Marks	Credit Hours	
<b>Ability Enhancement Compulsory Course (AECC)</b>	Two Papers	<b>200</b>	<b>2 x 2 = 4</b>	
<b>Skill Enhancement Elective Course (SEC)</b>	Two Papers	<b>200</b>	<b>2x4 = 8</b>	
<b>Generic Elective (GE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
<b>CORE COURSE (CC)</b>	Fourteen Papers	<b>1400</b>	<b>14x 6 = 84</b>	
<b>Discipline Specific Elective (DSE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
		<b>2600</b>	<b>Total 144</b>	

**B. B.Com. General Course Structure under Semesterised CBCS****Year I: Semester I**

		Marks	Credit Hours	
AECC 1.1Chg	<b>Language:</b> Communicative English - 50 Indian Language - 50	<b>100</b>	<b>2</b>	
GE 1.1 Chg	Microeconomics I & Statistics	<b>100</b>	<b>6</b>	
CC 1.1 Chg	Business Laws	<b>100</b>	<b>6</b>	
CC 1.2 Chg	Principles of Management	<b>100</b>	<b>6</b>	
CC 1.1 Cg	Financial Accounting - I	<b>100</b>	<b>6</b>	

**26****Year 1: Semester II**

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	<b>100</b>	<b>6</b>	
CC 2.1 Chg	Company Law	<b>100</b>	<b>6</b>	
CC 2.2 Chg	Marketing Management & Human Resource Management	<b>100</b>	<b>6</b>	
CC 2.1Cg	Cost and Management Accounting I	<b>100</b>	<b>6</b>	

**24**

### Year 2: Semester III

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	100	4	
GE 3.1 Chg	Business Mathematics & Statistics	100	6	
CC 3.1 Cg	Financial Accounting II	100	6	

16

### Year 2: Semester IV

		Marks	Credit Hours	
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	100	6	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	100	6	
CC 4.1 Cg	Taxation I	100	6	
CC 4.2 Cg	Cost and Management Accounting -II	100	6	

24

### Year 3: Semester V

		Marks	Credit Hours	
CC 5.1 Cg	Auditing & Assurance	100	6	
DSE 5.1 A*	Taxation II	100	6	
DSE 5.2 A*	Corporate Accounting	100	6	

18

#### Options:

\*Or DSE 5.1 M (Consumer Behaviour and Sales Management -50+50)  
& DSE 5.2 M (Product & Pricing Management and Marketing Communication (50+50)

\*Or DSE 5.1T (Public Finance and Taxation)  
& DSE 5.2 T (Direct Tax: Laws and Practice)

\*Or DSE 5.1 e-B (Fundamentals of Computer )  
& DSE 5.2 e-B DBMS and System Analysis & Design (50+50)

### Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	100	2	
SEC 6.1 Chg	Computerised Accounting and e-Filing of Tax Returns	100	4	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	100	6	
DSE 6.2 A**	Financial Management	100	6	

18

**Chg:** Common for Honours and General; **Cg:** Core Course for General  
**Options:**

\*\*Or DSE 6.1 M (Retail Management and Marketing of Services (50+50)  
& DSE 6.2 M (Rural Marketing and International Marketing (50+50)

\*\*Or DSE 6.1 T (Indirect Tax: Laws and Practices)  
& DSE 6.2 T (Tax Procedures and Planning)

\*\*Or DSE 6.1 e-B (Internet & WWW and Functional e-Business System (50+50)  
& DSE 6.2 e-B(Computer Applications and e-Business Applications – Practical (50+50)

### Summary for B.Com. General

		Marks	Credit Hours	
<b>Ability Enhancement Compulsory Course (AECC)</b>	Two Papers	200	2 x 2 = 04	
<b>Skill Enhancement Elective Course (SEC)</b>	Two Papers	200	2x4 = 08	
<b>Generic Elective (GE)</b>	Four Papers	400	4 x 6 = 24	
<b>CORE COURSE (CC)</b>	Eleven Papers	1100	11 x 6 =66	
<b>Discipline Specific Elective (DSE)</b>	Four Papers	400	4 x 6 = 24	
		2300	Total 126	

## Extracts from UGC CBCS Model for B.Com. Hons Syllabi (Page 2)

### Notes:

1. For Practical Lab based

a. Core Courses BCH 1.2 (Financial Accounting), BCH 3.2 (Income-tax Law and Practice), BCH 3.4 (Business Statistics), BCH 4.2 (Business Mathematics), and BCH 5.2 (Fundamentals of Financial Management) there shall be 4 Credit Hrs. for Lectures + one Credit hr. (Two Practical Periods per week per batch) for Practical Lab + one credit Hr for Tutorials (per group)

b. Core Courses BCH 4.3 (Computer Applications in Business) and Discipline Specific Elective BCH Group A (e) (Computerised Accounting System), there shall be 4 Credit Hrs. for Lectures + Two Credit hrs. (4 Practical Periods per week per batch) for Practical Lab

c. Skill Enhancement Elective Course BCH 3.5(E-Commerce), there shall be 3 Credit Hrs. for Lectures + One Credit hrs. (2 Practical Periods per week per batch) for Practical Lab

2. For other core and elective papers, there shall be 5 lectures and one Tutorial (per batch)

From above, It appears that:

- **one credit** represents **one lecture hour** for theoretical papers and there will be **one credit hour for tutorial** for each of theoretical papers / subjects.
- For practical lab based papers, **one credit represents two practical periods** and there will be no tutorial for practical papers/subjects.

**Therefore, it is suggested that:**

**AECC:** 2 credit hours means 2 lecture hours, i.e., 120 minutes lectures or three (3) periods of 40 mins each per week.

**SEC** (involving lab): 4 credit hours may be divided into two credit hours for lectures (3 periods of 40 mins) and 2 credit hours for practical (4 practical periods per batch) per week

**GE, CC and DSE:** 6 credit hours means 5 credit hours for lectures (300 mins for lectures, i.e., 7-8 periods of 40 mins each) and 1 tutorial hour for each group/ batch of students per week.

# University of Calcutta



## **B.Com. Syllabus (Honours)** *under Semesterised CBCS*

**2017**

**University of Calcutta**  
**Proposed B.Com. Honours Course Structure under CBCS**  
**Year I: Semester I**

		Marks	Credit Hours	
AECC 1.1Chg	<b>Language:</b> Communicative English - 50 Indian Language - 50	<b>100</b>	<b>2</b>	
GE 1.1 Chg	Microeconomics I & Statistics (50+50)	<b>100</b>	<b>6</b>	
CC 1.1 Chg	Business Laws	<b>100</b>	<b>6</b>	
CC 1.2 Chg	Principles of Management	<b>100</b>	<b>6</b>	
CC 1.1 Ch	Financial Accounting - I	<b>100</b>	<b>6</b>	

**26**

**Year 1: Semester II**

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	<b>100</b>	<b>6</b>	
CC2.1 Chg	Company Law	<b>100</b>	<b>6</b>	
CC 2.2 Chg	Marketing Management and Human Resource Management	<b>100</b>	<b>6</b>	
CC 2.1Ch	Cost and Management Accounting - I	<b>100</b>	<b>6</b>	

**24**

**Year 2: Semester III**

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	<b>100</b>	<b>4</b>	
GE 3.1 Chg	Business Mathematics & Statistics	<b>100</b>	<b>6</b>	
CC3.1 Ch	Financial Accounting II	<b>100</b>	<b>6</b>	
CC3.2 Ch	Indian Financial System	<b>100</b>	<b>6</b>	

**22**



### **Year 2: Semester IV**

		<b>Marks</b>	<b>Credit Hours</b>	
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	<b>100</b>	<b>6</b>	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	<b>100</b>	<b>6</b>	
CC 4.1 Ch	Taxation I	<b>100</b>	<b>6</b>	
CC 4.2 Ch	Cost and Management Accounting -II	<b>100</b>	<b>6</b>	

**24**

### **Year 3: Semester V**

		<b>Marks</b>	<b>Credit Hours</b>	
CC 5.1Ch	Auditing & Assurance	<b>100</b>	<b>6</b>	
CC 5.2 Ch	Taxation II	<b>100</b>	<b>6</b>	
DSE 5.1 A*	Economics II and Advanced Business Mathematics	<b>100</b>	<b>6</b>	
DSE 5.2 A*	Corporate Accounting	<b>100</b>	<b>6</b>	

**24**

#### **Options:**

\*Or DSE 5.1 M (Consumer Behaviour and Sales Management -50+50)  
& DSE 5.2 M (Product & Pricing Management and Marketing Communication (50+50)

\*Or DSE 5.1T (Public Finance and Taxation)  
& DSE 5.2 T (Direct Tax: Laws and Practice)

\*Or DSE 5.1 e-B (Fundamentals of Computer )  
& DSE 5.2 e-B DBMS and System Analysis &Design (50+50)

### Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	<b>100</b>	<b>2</b>	
SEC 6.1Chg	Computerised Accounting and e-Filing of Tax Returns	<b>100</b>	<b>4</b>	
CC 6.1 Ch	Project Work	<b>100</b>	<b>6</b>	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	<b>100</b>	<b>6</b>	
DSE 6.2 A**	Financial Management	<b>100</b>	<b>6</b>	

**24**

**Chg:** Common for Honours and General; **Ch:** Core Course for Honours

#### Options:

**\*\*Or DSE 6.1 M (Retail Management and Marketing of Services (50+50) & DSE 6.2 M (Rural Marketing and International Marketing (50+50)**

**\*\*Or DSE 6.1 T (Indirect Tax: Laws and Practices) & DSE 6.2 T (Tax Procedures and Planning)**

**\*\*Or DSE 6.1 e-B (Internet & WWW and Functional e-Business System (50+50) & DSE 6.2 e-B(Computer Applications and e-Business Applications – Practical (50+50)**

### Summary for B.Com. Hons.

		Marks	Credit Hours	
<b>Ability Enhancement Compulsory Course (AECC)</b>	Two Papers	<b>200</b>	<b>2 x 2 = 4</b>	
<b>Skill Enhancement Elective Course (SEC)</b>	Two Papers	<b>200</b>	<b>2x4 = 8</b>	
<b>Generic Elective (GE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
<b>CORE COURSE (CC)</b>	Fourteen Papers	<b>1400</b>	<b>14x 6 = 84</b>	
<b>Discipline Specific Elective (DSE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
		<b>2600</b>	<b>Total 144</b>	

## **Extracts from UGC CBCS Model for B.Com. Hons Syllabi (Page 2)**

### **Notes:**

#### **1. For Practical Lab based**

a. Core Courses BCH 1.2 (Financial Accounting), BCH 3.2 (Income-tax Law and Practice), BCH 3.4 (Business Statistics), BCH 4.2 (Business Mathematics), and BCH 5.2 (Fundamentals of Financial Management) there shall be 4 Credit Hrs. for Lectures + one Credit hr. (Two Practical Periods per week per batch) for Practical Lab + one credit Hr for Tutorials (per group)

b. Core Courses BCH 4.3 (Computer Applications in Business) and Discipline Specific Elective BCH Group A (e) (Computerised Accounting System), there shall be 4 Credit Hrs. for Lectures + Two Credit hrs. (4 Practical Periods per week per batch) for Practical Lab

c. Skill Enhancement Elective Course BCH 3.5(E-Commerce), there shall be 3 Credit Hrs. for Lectures + One Credit hrs. (2 Practical Periods per week per batch) for Practical Lab

#### **2. For other core and elective papers, there shall be 5 lectures and one Tutorial (per batch)**

From above, it appears that:

- **one credit** represents **one lecture hour** for theoretical papers and there will be **one credit hour for tutorial** for each of theoretical papers / subjects.
- For practical lab based papers, **one credit represents two practical periods** and there will be no tutorial for practical papers/subjects.

**Therefore, it is suggested that:**

**AECC:** 2 credit hours means 2 lecture hours, i.e., 120 minutes lectures or three (3) periods of 40 mins each per week.

**SEC** (involving lab): 4 credit hours may be divided into two credit hours for lectures (3 periods of 40 mins) and 2 credit hours for practical (4 practical periods per batch) per week

**GE, CC and DSE:** 6 credit hours means 5 credit hours for lectures (300 mins for lectures, i.e., 7-8 periods of 40 mins each) and 1 tutorial hour for each group/ batch of students per week.

# CONTENTS

## GE 1.1 Chg

### Microeconomics I & Statistics (50+50)

**Marks: 100**

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

### Module I: Microeconomics I

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<b>Total</b>	<b><u>50 marks</u></b>

#### **Unit:I Demand and Consumer behaviour**

Concept of demand, demand function, law of demand, derivation of individual and market demand curves, shifting of the demand curve; elasticity of demand.

Consumer behaviour: Marshallian utility approach and Indifference Curve approach; utility maximization conditions . Income-Consumption Curve (ICC) and Price-Consumption Curve (PCC): Derivation of demand curve from PCC.

**[L-15/Marks:15]**

#### **Unit: II Production and Cost**

Production function: Short-run and Long-run; Relation among Total Product, Average Product and Marginal Product, Law of returns to a variable factor, Law of Returns to Scale; Concepts of Iso-quant and iso-cost line; Conditions for optimization (graphical approach).

Cost: Accounting and Economic Costs; Social and Private Costs; Short-run and Long-run Costs; Relation between Average and Marginal Costs; Determination of LAC curve from SAC curves, LMC.

**[L-10/Marks:10]**

#### **Unit: III Perfect Competition**

Concept of Perfectly Competitive market: Assumptions, Profit maximization conditions;

Related concepts of Total Revenue, Average Revenue and Marginal Revenue, Short-run and Long-run

equilibrium of a firm; determination of short-run supply curve of a firm, measuring producer surplus under perfect competition, Stability analysis– Walrasian and Marshallian, demand-supply analysis including impact of taxes and subsidy.

**[L-15/Marks – 15]**

#### **Suggested Readings**

- Pindyke and Rubinfeld, Micro Economics, Pearson
- Gould & Ferguson, Micro Economic Theory
- Banerjee & Majumdar, Business Economics and Business Environment, ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali)
- Dwivedi, D.N., Managerial Economics, Vikash Publications
  - Mankiw.N.G., Principles of Microeconomics, Cengage
  - Das, P. & Sengupta A., Economics , Oxford
  - Samuelson & Nordhaus, Macroeconomics, McGraw Hill

## Module II: Statistics

Internal Assessment:	10 marks
Semester-end Examinations:	40 marks
<u>Total</u>	<u>50 marks</u>

- 1. Fundamentals:** Definition of Statistics, Scope and limitation of Statistics, Attribute and variable, Primary and secondary data, Method of data collection, Tabulation of data, Graphs and charts, Frequency distribution, Diagrammatic presentation of frequency distribution. [ 8 L /8Marks]
- 2. Measures of Central Tendency:** Meaning of central tendency, Common measures – mean (A.M., G.M., H.M.) median and mode, Partition values- quartiles, deciles and percentiles, Applications of different measures. [ 8 L /8Marks]
- 3. Measures of Dispersion:** Meaning of dispersion, Common measure– range, quartile deviation, mean deviation and standard deviation; Relative measures of dispersion, Combined standard deviation, Applications of different measures. [ 8 L /8Marks]
- 4. Moments, Skewness and Kurtosis:** Different types of moments and their relationships, Meaning of skewness and kurtosis, Different measures of skewness, Measure of kurtosis, Applications of different measures. [ 8 L /8Marks]
- 5. Interpolation:** Finite differences, Polynomial function, Newton's forward and backward interpolation formula, Lagrange's interpolation formula. [ 8 L /8Marks]

### Suggested Readings:

- Business Mathematics and Statistics- N G Das & J K Das (Tata McGraw Hill)
- Statistical Methods in Business and Social Science – G. V. Shenoy and M. Pant (Macmillan)
- Business Statistics – R. S. Bhardwaj (Excel Books)
- Statistics for Management – Levin, Rubin and Rastogi (Pearson Education)
- Statistics for Management, Srivastava and Rego, McGraw Hill
- Hazarika Padmalochan, A Text Book of Business Statistics, S.Chand
- Kellor & Arora, Business Statistics, Cengage
- Pillai and Bhagwati, Business Statistics, S.Chand
- Business Mathematics & Statistics – J. Chakraborti ( Dey Book Concern)
- Business Mathematics & Statistics – R K Ghosh & S Saha ( New Central Book Agency(P) Ltd
- Elementary Business Mathematics & Statistics – Dr. Priyotosh Khan ( Elegant Publication)
- Business Mathematics & Statistics – Dr. S N De (Chhaya Prakashani)
- Business Mathematics & Statistics – N K Nag & S K Nag ( Kalyani Publishers)
- Business Mathematics & Statistics – Dr. Ranjit Dhar (Dishari Prakashani)

## **CC 1.1 Chg**

### **Business Laws**

**Marks: 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **Unit 1: The Indian Contract Act, 1872** [No of classes 30 / Marks 30]

- a) Contract – meaning, characteristics and kinds, Essentials of a valid contract
- b) Offer and acceptance (Definition, Rules, Communication and Revocation of offer and acceptance)
- c) Consideration (Definition, Elements, Types, Rules), “No Consideration No Contract” and its exceptions; Capacity to Parties (Definition and Types)
- d) Consent, Free consent, Coercion, Undue Influence, Fraud, Misrepresentation, Mistake
- e) Legality of objects and Consideration
- f) Void and Voidable agreements – Definition, Types and Distinction
- g) Discharge of a contract – Modes of discharge, Breach and Remedies against breach of contract
- h) Specific Contracts - Contingent contracts, Quasi, Contract of Indemnity, Guarantee, Bailment, Pledges

#### **Unit 2: The Sale of Goods Act, 1930** [No of classes 10 / Marks 10]

- a) Contract of sale, meaning and difference between sale and agreement to sell
- b) Conditions and warranties
- c) Transfer of ownership in goods including sale by a non-owner
- d) Unpaid seller – meaning, rights of an unpaid seller against the goods and the buyer

#### **Unit 3: Partnership Laws** [No of classes 20 / Marks 20]

##### **A) The Partnership Act, 1932**

- a. Definition – Partner, Partnership
- b) Nature and Characteristics of Partnership
- c) Types of Partners
- d) Registration of a Partnership Firms and consequences of non-registration
- e) Rights and Duties of Partners
- f) Dissolution of firms – meaning and grounds

##### **B) The Limited Liability Partnership Act, 2008**

- a) Definition
- b) Salient Features of LLP
- c) Advantages and disadvantages of LLP
- d) Differences between: LLP and Partnership, LLP and Company
- e) Incorporation of LLP

#### **Unit 4: The Negotiable Instruments Act 1881** [No of classes 10 / Marks 10]

- a) Definition, Features, Types, Parties of Negotiable Instruments: Promissory Note, bill of exchange, Cheque (Definition and Types)
- b) Endorsement: Types of Endorsement
- c) Holder and Holder in Due Course, Privileges of Holder in Due Course.

- d) Dishonour of Negotiable Instruments: Modes, Consequences, Notice of Dishonour; Noting and Protesting
- e) Discharge of Negotiable Instruments: Meaning and Modes

#### **Unit 5: Consumers Protection Act, 1986**

**[No of classes 10 / Marks 10]**

- a) Objectives and features of Consumers Protection Act
- b) Definitions – Complainant, Complaint, Consumer, Consumer Dispute, Defect, Deficiency, District Forum, Person
- c) Unfair trade practices
- d) Consumer Protection Council (Central, State and District – their constitutions and objectives)
- e) Consumer Dispute Redressal Agencies: Composition and jurisdiction of District forum, State Commission and National Commission

*(If any new provisions are enacted in place of the existing provisions, the syllabus will accordingly include such new provisions in place of existing provisions with effect from such date as prescribed by Calcutta University. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus)*

#### **Suggested Readings**

- Kumar Ravindra, Legal Aspects of Business, Cengage
- Tulsian & Tulsian, Business Laws, S.Chand
- Kapoor N.D., Business Laws, Sultan Chand
- Das S.K. & Roy P., Business Regulatory Framework, OUP
- Gulsan S.S., Business Laws, Excel Books
- Roychowdhury, Bhattacharjee & Datta, Business Regulatory Framework, Elegant Publishers
- Bhadra, Satpati and Mitra, Ainer Ruprekha (Bengali Version), Dishari

**CC 1.2 Chg**  
**Principles of Management**

**Marks: 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

**Unit-1: Introduction:**

**No. of classes: 16 / Marks: 16**

Management-definition, importance, functions, nature-as profession, science and art, universality of management; levels of management; managerial tasks and skills.

Different Schools of Thoughts: Classical School-contributions of Taylor and Henri Fayol; Neo-classical school-Human Relations approach and Behavioral Science Approach; Modern School; System approach and Contingency approach.

**Unit-2: Planning:**

**No. of classes: 16 / Marks: 16**

Concept, importance, steps, types, premises, barriers to effective planning and remedial measures; strategic planning-concept forecasting –concept, techniques.

**Unit-3: Organizing:**

**No. of classes: 16 / Marks: 16**

Concept, importance, principles, different organization models-line and staff; Functional; Departmentation-need, basis, principles, Delegation of Authority-elements, steps barriers; Centralization and Decentralization of Authority; Span of Management; concept and determining factors.

**Unit-4: Directing and Staffing:**

**No. of classes: 16 / Marks: 16**

Directing: concepts, importance of directing,

Leadership: Concept, importance, types, leadership traits, Tannenbaum & Schmidt's Model and Blake & Mouton's Model.

Staffing: concepts, importance

**Unit- 5: Motivation, Co-ordination and Control:**

**No. of classes: 16 / Marks: 16**

Motivation: Concept, importance, importance of need theory, and contributions of McGregor, Maslow, Herzberg.

Coordination: concepts, importance, principles and implementation techniques.

Control: concepts, importance and tools of control.



### Suggested Readings

- Kaul, Principle and Practice of Management, Vikash
- Koontz & Weirich, Essentials of Management, TMH
- Koontz, Weirich & Cannice, Management, McGraw Hill
- Stoner & Freeman, Management , PHI
- Drucker, P.F., Managing Challenges for the 21<sup>st</sup> Century, Butterworth, Oxford
- Mitra, J., & Somani, N., Principles of Management and Business Communications, Oxford

**CC 1.1 Ch**  
**FINANCIAL ACCOUNTING – I**  
**Marks: 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**  
**FINANCIAL ACCOUNTING – I**

Unit	Topic	Details	Marks allotted	No. of Lectures
1	Introduction	<ul style="list-style-type: none"><li>• Nature of accounting; Users of accounting information; Qualitative characteristics of accounting information.</li><li>• Double entry book keeping system – Basic accounting equation, meaning of assets, liabilities, equity, revenue and expenses. Accounting Cycle - Recording of transaction: Journal, Ledger and preparation of Trial Balance.</li><li>• Bases of accounting; cash basis and accrual basis.</li><li>• Basic concepts and conventions: entity, money measurement, going concern, cost, realisation, accruals, periodicity, consistency, prudence (conservatism), materiality, matching and full disclosures.</li></ul>	5	5
2	Concepts for determination of business income	<ul style="list-style-type: none"><li>• Revenue recognition: Meaning of revenue; objective; timing of recognition. Recognition of expenses.</li><li>• Inventories: meaning. Significance of inventory valuation. Lower of cost or market rule; Inventory ascertainment and reconciliation.</li></ul>	15	15

		<ul style="list-style-type: none"> <li>The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation. Methods of computing depreciation: straight line method and diminishing balance method; Disposal of depreciable assets; change in estimate and method of charging depreciation. Accounting for depreciation: Asset-depreciation, Asset-provision.</li> <li>Reserves and provisions: Meaning; Objective; Types &amp; Accounting</li> </ul>		
		<ul style="list-style-type: none"> <li>Capital and revenue expenditures and receipts: general introduction only.</li> <li>Adjustment and rectification</li> </ul>		
3	Introduction to Accounting Standard	Financial accounting standards: concept, benefits, procedure for issuing accounting standards in India. Need for a global standard, IFRS (concept only).	10	10
	Introduction to Accounting Theory	Concept of accounting theory; relation with practice; GAAP; Capital – capital maintenance concepts; Limitations of Historic Cost accounting; Introduction to Fair Value accounting		
4	Final accounts of Trading Concern	Preparation of financial statements: of sole proprietorship business entities from a trial balance – Manufacturing, Trading, P/L A/c and Balance Sheet	15	15
5	Financial statements from Incomplete records and of NPO	Preparation of financial statements: <ul style="list-style-type: none"> <li>a) from incomplete records</li> <li>b) of non-profit organisation</li> </ul>	10	12
6	Accounting for special sales transaction	<ul style="list-style-type: none"> <li>Consignment: Basic features; difference with sales. Recording in the books of Consignor – at cost &amp; at invoice price, Valuation of unsold stock; Ordinary commission. Treatment and valuation of abnormal &amp; normal loss. Special commission; Del credere commission (with and without bad debt) - use of Consignment Debtors A/C. Recording in the books of Consignee</li> <li>Accounting for sale on approval</li> </ul>	25	23
	Sectional and Self balancing ledger	<ul style="list-style-type: none"> <li>Concept of sectional balancing, preparation of control accounts. Self balancing Ledger: advantages; Recording process; preparation of Adjustment accounts.</li> </ul>		

	Insurance claim for loss of stock and for loss of profit	<ul style="list-style-type: none"> <li>Loss of stock: Physical &amp; ownership concept; concept of under-insurance and average clause; computation of claim – with price change; consideration of unusual selling line; price reduction etc.</li> <li>Loss of profit: Concept – insured &amp; uninsured standing charges, GP rate, short sales and increased cost of working, average clause and computation of claim ( simple type )</li> </ul>		
--	--	--	--	--

**Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.**

**Suggested Reading:**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. I, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. I, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. I, Vikash Publishing House Pvt. Ltd.
- Sehgal & Sehgal, Advanced Accountancy Vol. I, Taxman Publication
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Hanif & Mukherjee, Financial Accounting, McGraw Hill
- Frank Wood, Business Accounting Vol 1, Pearson
- Tulsian, Financial Accounting, Pearson
- Mukherjee and Mukherjee, Financial Accounting I, Oxford
- Accounting Standards issued by ICAI

**Year 1: Semester II**

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	<b>100</b>	<b>6</b>	
CC2.1 Chg	Company Law	<b>100</b>	<b>6</b>	
CC 2.2 Chg	Marketing Management and Human Resource Management	<b>100</b>	<b>6</b>	
CC 2.1Ch	Cost and Management Accounting - I	<b>100</b>	<b>6</b>	

**24**

**GE 2.1 Chg**

**E-Commerce & Business Communication (50+50)**

**Marks: 100**

Internal Assessment: 20 marks  
Semester-end Examinations: 80 marks  
Total 100 marks

**Marks shown against the units indicate marks for Semester–end Examinations**

## **Module I**

### **E-Commerce**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

#### **Unit 1: Introduction**

**[10 Marks, Class: 10]**

E-Commerce-meaning, nature, concepts, types; e-commerce business models B2B [concept, major activities, types of B to B market (independent, buyer oriented, supplier oriented, e-market place)], B2C [portals, e-tailer, content provider, transaction broker, real life examples of B2C], C2C, C2B, etc.; forces behind e-commerce, e-Governance [meaning, types, significance, real life examples].

#### **Unit 2: E-CRM and SCM**

**[8 Marks, Class: 8]**

E-CRM-definition, features, goals of E-CRM business framework, phases of E-CRM, types of E-CRM, Functional components of E-CRM, strategies for E-CRM solutions; SCM-definition, features, types of supply chain.

#### **Unit 3: Digital Payment**

**[8 Marks, Class: 8]**

Methods of e-payments [Debit Card, Credit Card, Smart Cards, e-Money], electronic or digital wallet, digital signature (procedures, working and legal provisions), payment gateways [Core Banking Solution or CBS, Mobile Payment, UPI, NCPI, International Payments], Online banking [meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting], risks involved in e-payments.

#### **Unit 4: ERP**

**[8 Marks, Class: 8]**

Definition, features, major characteristics, levels of ERP, benefits of ERP, enterprise potential of ERP, modules of ERP, phases of ERP implementation, limitations of ERP.

#### **Unit 5: New Trends in E-Commerce**

**[6 Marks, Class: 6]**

Social Commerce-concept, definition, features; Digital Marketing-definition, objectives, methods, limitations; Advertisement in Social Media-objectives, advantages and disadvantages, procedures

### **Suggested Readings**

- P. T. Joseph, *E-Commerce: An Indian Perspective*, PHI Learning
- Henry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, *E-Commerce: Fundamentals and Applications*, Wiley.
- Laudon, *E-Commerce*, Pearson Education India
- Schneider G., *E-Business*, Cengage
- Bhaskar, B., *E-Commerce*, McGraw Hill

## Module II

### Business Communication

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<b>Total</b>	<b><u>50 marks</u></b>

#### Unit 1: Introduction

**[8 Marks, Class: 8]**

Definition, objectives, importance, elements, process, forms, models, principles of effective communication, barriers to communication and remedial measures, role of communication in conflict resolution

#### Unit 2: Types of Communication

**[6 Marks, Class: 6]**

Formal and informal communication, Grapevine, Characteristics of corporate communication, Characteristics of corporate communication, Communication network

#### Unit 3: Tools of Communication

**[6 Marks, Class: 6]**

Emergence of communication technology, Modern Forms of communication, Fax, E-mail, Video Conferencing

#### Unit 4: Drafting

**[20 Marks, Class: 20]**

Notice, Circular, Resolution & Minutes, Report, CV writing, Business letter writing- Offer letter, Quotation, Status enquiry, Confirmation, Execution, Refusal and cancellation of order, Recommendation, Credit collection, Claim, Bank loan

#### . Suggested Readings

- Anjanee, S. & Bhavana Adhikari, *Business Communication*, TMH
- Chaturvedi & Chaturvedi, *Business Communication : Concepts, Cases and Applications*, Pearson
- M.K. Shegal & Vandana Khetarpal, *Business Communication*, Excel Books
- R.K. Madhukar, *Business Communication*, Vikash Publishing House Pvt. Ltd.
- Rao, Kumar & Bindu, *Business Communication*, Cengage
- Khanna, Puja., *Business Communication*, Vikash
- Raman & Sharma, *Technical Communication*, Oxford
- Lesikar, Flatley et al, *Business Communication*, McGraw Hill

**CC2.1 Chg  
Company Law**

**Marks: 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Unit 1: INTRODUCTION TO COMPANY[No of classes 16 / Marks 16]**

Meaning and Definition – Features –, High Lights of Companies Act 2013 - Body Corporate ,Kinds of Companies ( Concept, Definition and Features) – One Person Company, Private Company, Public Company, Company limited by Guarantee, Company limited by Shares, Holding Company, Subsidiary Company, Government Company, Associate Company, Small Company, Foreign Company, Listed Company, Dormant company , Lifting of corporate veil.

**Unit 2: FORMATION OF A COMPANY[No of classes 16 / Marks 16]**

Steps in formation of a Company, Promotion Stage, Meaning of Promoter, Position of Promoter & Functions of Promoter, Incorporation Stage – Meaning, Contents, Forms of Memorandum of Association & Articles of Association and its alteration, Distinction between Memorandum of Association and Articles of Association, Doctrines of constructive notice and Indoor management, Certificate of Incorporation, Subscription Stage – Meaning & contents of Prospectus, Types, Misstatement in prospectus and its consequences.

**Unit 3: COMPANY ADMINISTRATION[No of classes 16 / Marks 16]**

Director ( Concept and Definition), DIN, Qualification, Disqualification, Appointment, Position, Rights, Duties, Power, Resignation, Liabilities, Removal and Resignation of director. Key Managerial Personnel ( Definition, Appointment and Qualifications) – Managing Director, Whole time Directors, the Companies Secretary, Chief Financial Officer, Resident Director, Independent Director, Women director.

**Unit 4: SHARE CAPITAL & DEBENTURE[No of classes 16 / Marks 16]**

Share, Share Capital - Types and Definition, Allotment and Forfeiture, Calls on Shares, ESOP, Buyback, Sweat Equity, Bonus, Right, Capital Reduction, Share Certificate, D-mat System, Transfer and Transmission, Redemption of Preference Shares, Debenture – Definition, Types, Rules Regarding Issue of Debenture.

## **Unit 5: CORPORATE MEETINGS[No of classes 16 / Marks 16]**

Corporate Meetings - Shareholder and Board, Types of Meetings – Annual General Meeting Extraordinary General meeting, Minutes of Proceedings of General Meeting, Meeting of BOD and other meetings (Section 118), Requisite of Valid Meeting- Notice, Agenda, Chairman, Quorum, Proxy, Resolutions, Minutes, Postal Ballot, E- voting, Video Conferencing, Board Meetings and Resolutions

*(If any new provisions are enacted in place of the existing provisions, the syllabus will accordingly include such new provisions in place of existing provisions with effect from such date as prescribed by Calcutta University. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus)*

### **Suggested Readings**

- Kumar Rabindra, Legal Aspects of Business, Cengage
- Bhadra, Satpati and Mitra, Ainer Ruprekha (Bengali Version), Dishari
- Kapoor, N.D., Corporate Law, S.Chand
- Arora, Bansal, Corporate Law, Oxford
- Roychowdhury, Bhattacharjee & Datta, Business Regulatory Framework, Elegant Publishers

### **CC 2.2 Chg**

## **Marketing Management and Human Resource Management**

**Marks 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

### **Module I**

#### **Marketing Management**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

### **Unit 1: Introduction:**

**No. of classes: 8 / Marks: 8**

Nature, scope and importance of marketing; Selling vs Marketing; Marketing mix, Marketing environment: concept, importance, and components (Economic, Demographic, Technological, Natural, Socio-Cultural and Legal).

**Unit 2: Consumer Behaviour and Market segmentation:****No. of classes: 8 / Marks: 8**

Consumer Behaviour: Nature and Importance, Factors influencing consumer buying behaviour.

Market segmentation: concept, importance and bases; Product differentiation vs. market segmentation.

**Unit 3: Product:****No. of classes: 8 / Marks: 8**

Concept and importance, Product classifications; Concept of product mix; Branding, packaging and labeling; Product life-cycle; New Product Development Process.

**Unit 4: Pricing, Distribution Channels and Physical Distribution****No. of classes: 8 / Marks: 8**

Pricing: Significance. Factors affecting price of a product. Pricing policies and strategies.

Distribution Channels and Physical Distribution: Channels of distribution - meaning and importance; Types of distribution channels; Factors affecting choice of distribution channel.

**Unit 5: Promotion and Recent developments in marketing:****No. of classes: 8 / Marks: 8**

Promotion: Nature and importance of promotion; Communication process; Types of promotion: advertising, personal selling, public relations & sales promotion, and their distinctive characteristics.

Recent developments in marketing: Social Marketing, online marketing, direct marketing, services marketing, green marketing, Rural marketing; Consumerism.

**Suggested Readings:**

- Kotler & Keller, Marketing Management, Pearson
- Ramaswamy and Namakumari, Marketing Management, McMillan
- Bhagwati, Pillai, Marketing Management, S.Chand
- Verma & Duggal, Marketing Management, Oxford
- Venugopal, P., Marketing Management, Sage
- Saxena, Marketing Management, McGraw Hill

**Module II****Human Resource Management****Internal Assessment: 10 marks****Semester-end Examinations: 40 marks****Total 50 marks****Unit 1: Nature and Scope****No. of classes: 8 / Marks: 8**

Concept and meaning of HR, Understanding the Nature and Scope of HRM, Functions and importance.



**Unit 2: Human Resource Planning****No. of classes: 8 / Marks: 8**

Definition, Need and Features of Human Resource Planning, factors affecting Human Resource Planning.

**Unit 3: Recruitment and Selection****No. of classes: 8 / Marks: 8**

Definition of Recruitment, Source, need and importance of Recruitment, Recruitment Policy – process – sources of Recruitment Definition of Selection, Steps in selection.

**Unit 4: Training and Development****No. of classes: 8 / Marks: 8**

Training and Development Meaning and purpose of training, Benefits of training to organisation and employees -Training methods.

**Unit 5: Job Evaluation and Performance Appraisal****No. of classes: 8 / Marks: 8**

Job evaluation - objectives, scope, method, Job analysis, Job description, Job Specification - basic concept and significance,  
Performance Appraisal - Concept

**Suggested Readings:**

- Mahajan, Reeta, Human Resource Management, Vikash
- Haldar & Sarkar, Human Resource Management, Oxford
- Sinha, Sekhar & Bala, Human Resource Management, Cengage
- Jyothi & Venkatesh, Human Resource Management, Oxford
- Wilton, N., An Introduction to Human Resource Management, Sage
- Dessler & Varkkey, Human Resource Management, Pearson

**CC 2.1Ch****COST AND MANAGEMENT ACCOUNTING – I****Marks 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Content	Marks	Lecture
1.	Introduction	<ul style="list-style-type: none"> <li>• Definition of Costing, Objectives of Cost Accounting; Management Accounting and difference with Cost Accounting; Installing a Cost Accounting System, Essentials of a good Cost Accounting System.</li> <li>• <b>Cost concepts, terms and classification of costs:</b> Cost, Cost object, Cost units and Cost Centres, Types</li> </ul>	10	6

		of costs, classification of costs- Direct-Indirect, Elementwise, Functionwise, Behaviourwise, Sunk Cost, opportunity Cost. <b>Costing Methods and Techniques</b> (introduction only).		
2	<b>Material Costs</b>	<ul style="list-style-type: none"> <li>• <i>Purchase of materials</i>: Organisation, purchase procedure, documentation, determination of material purchase costs.</li> <li>• <i>Storage of materials</i>: Need for storage, location and types, functions of a storekeeper, requisition, receipt, issue and transfer of materials, storage record, accounting for materials cost.</li> <li>• <i>Materials control</i>: Organisation; Tools: Just-in-Time Purchase; various stock levels, Economic Ordering Quantity and ABC Analysis; Periodic Inventory, Perpetual Inventory, Physical verification; Discrepancies in stock and their treatment.</li> <li>• Methods of Pricing Material Issues: FIFO, LIFO, and Weighted Average.</li> <li>• Treatment of Normal and Abnormal Loss of Materials</li> </ul>	10	10
3	<b>Employee Cost and Incentive Systems</b>	<ul style="list-style-type: none"> <li>• Introduction, Recording labour cost: Attendance and payroll procedures (Time-keeping, Time-Booking, Payroll procedure, Payment of wages-Piece rate, differential piece rate, time rate); Idle time (causes and treatment in Cost Accounting), Overtime (its effect and treatment in Cost Accounting), Labour turnover (Causes, impact and methods of calculating labour turnover).</li> <li>• Main Principles for sound system of wage incentive schemeslabour utilisation; System of Wage Payment and Incentives(Halsey, Halsey-weir, Rowan and Emerson</li> <li>• System of Incentive Schemes for Indirect Workers; Component of wages cost for costing purpose.</li> </ul>	10	12
4	<b>Overhead and Cost Statement</b>	<b>Overhead</b> <ul style="list-style-type: none"> <li>• <i>Introduction</i>: Definition, Classification of Overhead-Functional and Behavioural.</li> <li>• <i>Manufacturing Overheads</i>: Allocation and apportionment of Overhead; Absorption of Overhead: various methods and their application; Treatment of under absorption/over absorption of overheads.</li> <li>• <i>Administration and Selling &amp; Distribution Overheads and their charging</i>: an introduction only</li> <li>• Preparation of Cost Sheet and estimation</li> </ul>	20	20
5	<b>Cost Book-keeping</b>	<b>Cost Book-keeping</b> <ul style="list-style-type: none"> <li>• Non-Integrated System: Meaning &amp; Features; Ledgers Maintained; Accounts prepared; General/Cost Ledger Adjustment Account; Meaning of Closing Balance in Various Accounts; Disadvantages.</li> <li>• Reconciliation: Need for reconciliation; Items causing differences between Cost and Financial Profits and their reconciliation.</li> </ul>	10	8

6	<b>Costing Methods</b>	<ul style="list-style-type: none"> <li>• <b>Job Costing</b> (Job cost cards and databases, Collecting direct costs of each job, Attributing overhead costs to jobs, Applications of job costing). <b>Batch Costing</b></li> <li>• <b>Contract Costing</b> - Progress payments, Retention money, Escalation clause, Contract accounts, Accounting for material, Accounting for plant used in a contract, Contract Profit and Balance sheet entries.</li> <li>• <b>Service Costing and Output Costing</b>- Introduction; Motor Transport Costing only</li> <li>• <b>Process Costing</b>: Meaning, Features, Process vs Job Costing, Principles of cost ascertainment for Materials, Labour &amp; Overhead; Normal loss, Abnormal loss and gain and preparation of process accounts. Inter-process profit (simple cases). Valuation of WIP and Equivalent units (excluding intermediary process).</li> </ul>	20	24
			80	80

### Suggested Readings

- Horngren, Datar & Rajan, Cost Accounting,- A Managerial Emphasis, Pearson
- B.Banerjee, Cost Accounting, PHI
- Jawahar Lal & Seema Srivastava, Cost Accounting, TMH
- M.Y.Khan & P.K.Jain, Management Accounting, TMH
- Atkinson, Management Accounting, Pearson
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann
- Mitra, J.K., Cost & Management Accounting, Oxford
- Hanif, M., Cost & Management Accounting, McGraw Hill
- Drury, Colin., Management and Cost Accounting, Cengage
- Satish Inamdar, Cost & Management Accounting, Everest Publishing House
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann

### Year 2: Semester III

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	100	4	
GE 3.3 Chg	Business Mathematics & Statistics	100	6	
CC3.1 Ch	Financial Accounting II	100	6	
CC3.2 Ch	Indian Financial System	100	6	

**SEC 3.1 Chg**  
**Information Technology & Its Application in Business**  
**(Theory -50 + Practical- 50)**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Module I**  
**Information Technology and Its Application in Business (Theory)**  
*(Marks: 50)*

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

**Unit1: Information Technology and Business [8 Marks, Class: 8]**

Concepts of data, information and computer based information system, impact of information technology on business [business data processing, intra-organizational and inter-organizational communication by using network technology, business process outsourcing and knowledge process outsourcing], types of Information System- Transaction Processing System (TPS), Management Information System (MIS), Decision Support System (DSS), Knowledge Management System (KMS) and their implementation at managerial levels [operational, tactical and strategic].

**Unit 2: Data Organization and Data Base Management System [10 Marks, Class: 10]**

**(a) Data Organisation:** Character, field, record, file and database, types of data processing systems [Serial, Batch, Real-time, Online, Centralized, Distributed], File Organizations [Sequential, Direct, Indexed-Sequential, Relative], Traditional file organisation vs. Database file organisation.

**(b) Database Management System:** Concept of database management system (DBMS), definition, importance of DBMS, important terms of database [Entity, Attribute, Keys- Primary, Foreign and Candidate, Referential Integrity, Table, Views, Data Dictionary], types of database [Hierarchical, Network and Relational], basic ideas of Data Warehouse and Data Mining (definition, importance, advantages and disadvantages), Big data analysis- Concept.

**Unit 3: Internet and Its Applications [8 Marks, Class: 8]**

Meaning of Internet, IPAddress [IPv4, IPv6], URL, Domain Name System, Internet Protocols - TCP/IP, UDP, FTP, TELNET[brief ideas only], HTML, DHTML AND XML [Concepts only], Ethical Hacking, Cloud Computing, Mobile Computing, Internet of Things, Ethical issues in Social Networking.

**Unit 4: Security and Encryption [8 Marks, Class: 8]**

Need and concepts, dimension, definition and scope of e-security, security threats- Malicious Codes (Virus, Trojan Horse, Worm, Spyware, Ransomware), Hacking, Spoofing, Sniffing, Phishing, Spamming, Denial of Service (DoS) attacks, Technology solutions [Confidentiality: (Data Encryption & Decryption, Symmetric and asymmetric encryption), Security Implementation: Firewall, DMZ (De Militarized Zone), SSL, HTTPs, Significance of Website Auditing].

**Unit 5: IT Act. 2000 and Cyber Crimes****[6 Marks, Class: 6]**

IT Act 2000- Definitions of different terms, Digital signature, Electronic Governance, Attribution, Acknowledgement and Dispatch of Electronic Records, Regulation of Certifying Authorities, Digital Signatures Certificates, Duties of Subscribers, Penalties and Adjudication, Appellate Tribunal, Offences and Cyber-crimes.

**Module II****Information Technology and Its Application in Business (Practical)***(Marks: 50)***Internal Assessment: 10 marks****Semester-end Examinations: 40 marks****Total 50 marks****Unit 1: Word Processing****[5 Marks, Class: 5]**

Working with word document- Editing text, Find and Replace text, Formatting, Spell check, Autocorrect, Auto text; Bullets and numbering, Tabs, Paragraph Formatting, Indent, Page Formatting, Header and footer, Macros, Drop cap; Tables: Inserting, Filling and formatting a Table, Inserting Pictures and Video; Mail Merge- including linking with Database, Printing documents.

**Creating Business Documents using the above facilities****Unit 2: Preparing Presentations****[5 Marks, Class: 5]**

Basics of presentations: Slides, Fonts, Drawing, Editing; Inserting: Tables, Images, texts, Symbols, Media; Design; Transition; Animation, Hyperlink and Slideshow.

**Creating Business Presentations using above facilities.****Unit 3: Spreadsheet and its Business Applications****[16Marks, Class: 16]**

Managing worksheets- Formatting, Entering data, Editing, and Printing a worksheet; Handling operators in formula, Project involving multiple spreadsheets, Organizing Charts and graphs, Pivot Table.

**Spreadsheet Functions:** Mathematical [SUMIF, SQRT, SUBTOTAL, SUMPRODUCT etc.], Statistical [AVERAGE, STDEV, VAR, CORRELATION, REGRESSION etc.], Financial [PMT, RATE, PV, FV, NPV, IRR, NPV, Data Table Etc.] Logical [AND, OR, IF etc.], Date and Time, lookup and reference, Database and Text functions.

**Creating Spreadsheet in the area of:** Loan and Lease statement; Ratio Analysis; Payroll Statements; Capital Budgeting; Depreciation Accounting; Graphical Representation of Data; Frequency Distribution and its Statistical Parameters; Correlation and Regression

**Unit 4: Database Management System****[8 Marks, Class: 8]**

Creation of Tables, Multiple Table Handling-Defining Relationship [Foreign Key], Simple and Conditional Queries, Types of Queries [Update, Delete, Append], Forms, Reports, Introduction to SQL through Basic Commands.

Applying DBMS in the areas of Accounting, Inventory, HRM and its accounting, Managing the data records of Employees, Suppliers and Customers.

### Unit 5: Website Designing

[6 Marks, Class: 6]

Introduction to HTML; Tags and Attributes: Text Formatting, Fonts, Hypertext Links, Tables, Images, Lists, Forms, Frames, Cascading Style Sheets.

#### Suggested Readings

- Thareja, IT & Application, Oxford
- Aurora, Computer Fundamentals, Vikash
- Sinha & Sinha, Fundamentals of Computers, BPB Publications
- Dhar, P., Fundamental of IT and Its Application in Business, APH

## GE 3.3 Chg Business Mathematics & Statistics Marks 100

Module I	
Business Mathematics	
Internal Assessment:	10 marks
Semester-end Examinations:	40 marks
<u>Total</u>	<u>50 marks</u>

- 1 **Permutations and Combinations:** Definition, Factorial Notation, Theorems on Permutation, Permutations with repetitions, Restricted Permutations; Theorems on Combination, Basic identities, Restricted Combinations. [ 8 L /8Marks]
- 2 **Set Theory:** Definition of set, Presentation of sets, Different types of sets- Null set, Finite and infinite Sets, Universal set, Subset, Power set etc.; Set Operations, Law of algebra of Sets. [ 8 L /8Marks]
- 3 **Binomial Theorem:** Statement of the theorem for positive integral index, General term, Middle term, Simple properties of binomial coefficients. [ 8 L /8Marks]
- 4 **Logarithm:** Definition, Base and Index of Logarithm, General properties of Logarithm, Common Problems. [ 8 L /8Marks]
- 5 **Compound Interest and Annuities:** Simple AP and GP Series, Different types of interest rates, Net present value, Types of annuities, Continuous compounding, Valuation of simple loans and debentures, Problems relating to Sinking Funds. [8 L /8Marks]

## Module II Statistics

Internal Assessment:	10 marks
Semester-end Examinations:	40 marks
<u>Total</u>	<u>50 marks</u>

6. **Correlation and Association:** Bivariate data, Scatter diagram, Pearson's correlation coefficient, Spearman's rank correlation, Measures of association of attributes.

[ 8 L /8Marks]

7. **Regression Analysis:** Least squares method, Simple regression lines, properties of regression, Identification of regression lines.

[ 8 L /8Marks]

8. **Index Numbers:** Meaning and types of index numbers, Problems of constructing index numbers, Construction of price and quantity indices, Test of adequacy, errors in index numbers, Chain base index numbers; Base shifting, Splicing, Deflating, Consumer price index and its uses.

[ 8 L /8Marks]

9. **Time Series Analysis:** Causes of variation in time series data, Components of time series, additive and multiplicative models, Determination of trend by semi-average, moving average and least squares( of linear, quadratic and exponential trend) methods; Computation of seasonal Indices by simple average, ratio-to-moving average, ratio-to-trend and link relative methods; Simple forecasting through time series data.

[ 8 L /8Marks]

10. **Probability Theory:** Meaning of probability; Different definitions of probability; Conditional probability; Compound probability; Independent events, Simple problems.

[ 8 L /8Marks]

#### **Suggested Readings**

- Business Mathematics and Statistics- N G Das & J K Das (Tata McGraw Hill)
- Statistics for Business Decisions – J. K .Das (Academic Publishers)
- Basic Mathematics and its Application in Economics – S. Baruah (Macmillan )
- Mathematics for Economics and Business – R. S. Bhardwaj (Excel Books)
- Mathematics and Statistics for Management – K B Akhilesh and S Balasubrahmanyam (Vikash Publishing House Pvt.Ltd.)
- Business Statistics – G. C. Beri (Tata McGraw Hill)
- Fundamentals of Statistics – S.C.Gupta (Himalaya Publishing House )
- Statistics for Business and Economics – D. R. Anderson, D. J. Sweeney and T. A. Williams (Thomson Asia Pvt Ltd)
- Text Book of Business Mathematics , Padmalochan Hazarika, S.Chand
- Business Mathematics, Jameeruddin, Khanna & Bhamdri, Vikash
- Business Mathematics & Statistics – J. Chakraborti ( Dey Book Concern)
- Business Mathematics & Statistics – R K Ghosh & S Saha ( New Central Book Agency(P) Ltd
- Rajaretnam, Statistics for Social Sciences, Sage
- Elementary Business Mathematics & Statistics – Dr. Priyotosh Khan ( Elegant Publication)
- Business Mathematics & Statistics – Dr. S N De (Chhaya Prakashani)
- Business Mathematics & Statistics – N K Nag & S K Nag ( Kalyani Publishers)
- Business Mathematics & Statistics – Dr. Ranjit Dhar (Dishari Prakashani)

### **CC3.1Ch: FINANCIAL ACCOUNTING – II**

**Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

## FINANCIAL ACCOUNTING – II

Unit	Topic	Details	Marks allotted	No. of lectures
1	Partnership accounts-I	<p>Correction of appropriation items with retrospective effect.</p> <p>Change in constitution of firm – change in P/S ratio, admission, retirement and retirement cum admission – treatment of Goodwill, revaluation of assets &amp; liabilities (with/without alteration of books), treatment of reserve and adjustment relating to capital; treatment of Joint Life Policy, Death of a partner</p>	15	15
2	Partnership accounts-II	<p>Accounting for dissolution of firm – insolvency of one or more partner, consideration of private estate and private liabilities. Piecemeal distribution – surplus capital basis; maximum possible loss basis.</p>	15	15
3	Branch accounting	<p>Concept of Branch; different types of Branches.</p> <p>Synthetic method – preparation of Branch account. Preparation of Branch Trading and P/L account. ( at cost &amp; at IP ) – normal and abnormal losses.</p> <p>Analytical method – preparation of Branch Stock, Adjustment etc A/C (at cost &amp; at IP ) – normal &amp; abnormal losses</p> <p>Independent branch – concept of wholesale profit</p>	10	10
4	Hire purchase and Instalment payment system	<p>Meaning; difference with Installment payment system; Recording of transaction in the books of buyer – allocation of interest – use of Interest Suspense a/c – partial and complete repossession</p> <p>Books of Seller – Stock and Debtors A/C ( with repossession)</p> <p>Books of Seller – H.P. Trading A/C without HP Sales and HP Debtors and General Trading A/c ( with repossession)</p> <p>Concept of operating and financial lease – basic concept only.</p>	10	10



5	Departmental accounts	Concept, objective of preparation of departmental accounts; apportionment of common cost; Preparation of Departmental Trading and P/L account, Consolidated Trading and P/L account; inter departmental transfer of goods at cost, cost plus and at selling price and elimination of unrealized profit.	10	10
6	Investment Accounts	Maintenance of Investment Ledger; Preparation of Investment Account (transaction with brokerage, STT, cum & ex-interest), Valuation of Investment under FIFO and Average method; Investment Account for Shares (with Right Shares, Bonus Shares and Sale of Right). Relevant Accounting Standard.	10	10
7	Business Acquisition and Conversion of partnership into limited company	<ul style="list-style-type: none"> <li>• Profit/ loss prior to incorporation; Accounting for Acquisition of business.</li> <li>• Conversion of Partnership into Limited Company – with and without same set of books</li> </ul>	10	10
			<b>80</b>	<b>80</b>

***Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.***

### **Suggested Reading**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. I & II, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. I & II, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. I & II, Vikash Publishing House Pvt. Ltd.
- Sehgal & Sehgal, Advanced Accountancy Vol. I & II, Taxman Publication
- L.S.Porwal, Accounting Theory, Tata Mcgraw Hill
- Gokul Sinha, Accounting Theory & Management Accounting,
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Frank Wood, Business Accounting Vol 1&II, Pearson
- Tulsian, Financial Accounting, Pearson
- Hanif & Mukherjee, Financial Accounting, Vol II, McGraw Hill
- Accounting Standards issued by ICAI

## CC3.2 Ch

### Indian Financial System

Full Marks:100

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
Total	<u>100 marks</u>

Marks shown against the units indicate marks for Semester–end Examinations

#### Unit:I Financial System and Its Components

Meaning, Significance and Role of the Financial System; Components of the Financial System; The structure of Indian Financial System.

[L-10/Marks:10]

#### Unit:II Financial Markets

(a) **Money Market:** Functions and Instruments; Role of Central Bank; Indian Money Market: An Overview, Call Money Market, Treasury Bills Market, Commercial Paper (CP) Market, Certificate of Deposit (CD) Market; Concepts- Repo, Reverse Repo; Recent trends in the Indian money market.

[L-10/Marks 10]

(b) **Capital Market:** Functions and Instruments; Primary and Secondary Markets- Functions and inter-relationship, Methods of New Issues; Indian debt market and equity market; Market Intermediaries- Brokers, Sub-Brokers; Role of Stock Exchanges in India; Recent trends in the Indian capital market.

[L-20/Marks:20]

#### Unit: III Financial Institutions

Commercial banking: Functions of Commercial Banks, Credit creation by commercial banks and its limitations; Reserve bank of India: Functions, Credit Control and Monetary Policy; Development Financial Institutions in India: NABARD, EXIM Bank, SIDBI; Life Insurance and General Insurance Companies in India: Functions; Mutual Funds: Concept of Mutual Fund, Types of Mutual Funds(open ended and close ended); Role of Mutual Funds in Indian capital market; Non-Banking Financial Companies (NBFCs):Definition, Functions, Regulations of RBI over NBFCs. [L-20/Marks:20]

#### Unit: IV Financial Services

Merchant Banks: Functions and Role, SEBI Regulations; Credit Rating: Objectives and Limitations, SEBI Regulations; Credit Rating Institutions and their functions. [L-10/Marks:10]

#### Unit: V Investors' Protection

Concept of investors' protection; Grievances regarding new issue market and Stock Exchange transactions, and the Grievance Redressal Mechanism; Role of SEBI, judiciary and the media.

[L-10/Marks:10]

#### Suggested Readings

- Khan, M. Y., Indian Financial System-Theory and Practice, TMH
- Bhole, L. M., Financial Markets and Institutions, TMH
- Majumder S., Indian Financial System
- Nayak and Sana, Indian Financial System, Rabindra Library
- Basu, A, Mazumdar, D, Datta S., Indian Financial System, ABS

- Gurusamy, Financial Services, TMH
- Pathak, B., Indian Financial System, Pearson
- Bhattacharyya S., Indian Financial System, Oxford University Press
- Saha, S.S., Indian Financial System and Markets, McGraw Hill
- Saha, S.S., Capital Markets and Securities Law, Taxmann

### Year 2: Semester IV

		Marks	Credit Hours	
GE 4.1 Chg	Microeconomics I & Indian Economy (50+50)	<b>100</b>	<b>6</b>	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	<b>100</b>	<b>6</b>	
CC 4.1 Ch	Taxation I	<b>100</b>	<b>6</b>	
CC 4.2 Ch	Cost and Management Accounting -II	<b>100</b>	<b>6</b>	

**24**

**GE 4.1 Chg**  
**Microeconomics-II & Indian Economy (50+50)**  
 Internal Assessment: 20 marks  
 Semester-end Examinations: 80 marks  
Total 100 marks

Marks shown against the units indicate marks for Semester–end Examinations

**Module I**  
**Microeconomics-II**  
 Internal Assessment: 10 marks  
 Semester-end Examinations: 40 marks  
Total 50 marks

**Unit: I Monopoly**

Concept of Monopoly: Sources of monopoly power; Short-run and Long-run equilibrium of a monopoly firm; Price discrimination; Social Cost of Monopoly (concept only).

**[L-10/Marks:10]**

**Unit: II Imperfect Competition**

Concept of Imperfectly Competitive market; Monopolistic Competition: Features and examples; Oligopoly: Non-Collusive Oligopoly: Sweezy's Kinked demand Curve Model, Collusive Oligopoly: Cartel (concept with example)

[L-15/Marks:15]

**Unit: III Factor Price Determination**

Introduction; Marginal Productivity Theory of Distribution; Marginal Productivity Theory of Wage, Demand Curve of Labour, Supply Curve of Labour; Wage Determination in an Imperfectly Competitive Labour Market: Case of Collective Bargaining, Factors determining the power of trade unions to raise wages; Theory of Rent: Ricardian Theory of Rent, Modern Theory of Rent, Quasi-rent; Theory of Profit: Gross Profit and Net Profit, Accounting Profit and Normal Profit, Different Theories of Determination of Profit; Concept of Interest: Gross Interest and Net Interest, Classic Theory of Interest Rate Determination.

[L-15/Marks 15]

**Suggested Readings**

- Pindyke and Rubinfeld, Micro Economics, Pearson
- Gold & Ferguson, Micro Economic Theory
- Banerjee & Majumdar, Business Economics and Business Environment, ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali),ABS
- Ratan Khasnabish & Ranesh Roy, Banijjik Arthaniti –o- Bharoter arthanaitik Paribesh(Bengali)
  - Divedi, D.N., Managerial Economics, Vikash Publications
  - Mankiw.N.G., Principles of Microeconomics, Cengage
  - Das, P. & Sengupta A., Economics , Oxford
  - Samuelson & Nordhaus, Macroeconomics, McGraw Hill

## Module II

### Indian Economy

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b>40 marks</b>
<b>Total</b>	<b>50 marks</b>

**Unit:I Basic Issues in Economic Development**

Concepts and measures of development and underdevelopment; Concept of national income: GDP,GNP,NDP,NNP,NI (concepts only).

[L 5/ Marks:5]

**Unit:II Basic Features of Indian Economy**

Sectoral distribution of National Income and Occupational Structure; Structural Change in Indian Economy, issue of Service-led Growth.

[L 10/ Marks:10]

**Unit:III Sectoral Trends and Issues**

(a) **Agricultural Sector:** Problem of low productivity; Green Revolution and its impact; Land Reforms; Problems of rural credit and marketing.

(b) **Industry and Service Sector:** An overview of industrial growth during pre-reform and post-reform

period; Role of Public Sector: its performance and the issue of disinvestment; Role of MSME sector, problems faced by the MSME Sector; Role of the Service Sector: growth of banking and insurance sector during the post-reform period.

(c) **External Sector:** Problem of unfavourable balance of payments and policy measures.

[L 15/ Marks:15]

#### **Unit:IV Social Issues in Indian Economy**

Problem of Poverty, Poverty alleviation measures; Problem of Unemployment and the policy measures.

[L 10/ Marks:10]

#### **Suggested Readings**

- Dutt & Sundaram, Indian Economy, S.Chand
- Mishra & Puri, Indian Economy, Himalaya Publishing House
- Uma Kapila, Indian Economy
- Joydeb Sarkhel & Swapan Kr. Roy, Bharoter arthanaiti(Bengali)
- Banerjee & Majumdar, Business Economics and Business Environment, ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali), ABS
- Ratan Khasnabish & Ranesh Roy, Banijjik Arthaniti –o- Bharoter arthanaitik Paribesh(Bengali)
  - Prakash, B.A., Indian Economy, Pearson
  - Fernando, Indian Economy, Pearson

#### **CC 4.1 Chg**

#### **Entrepreneurship Development and Business Ethics**

Internal Assessment: 20 marks

Semester-end Examinations: 80 marks

Total 100 marks

Marks shown against the units indicate marks for Semester–end Examinations

#### **Module I**

#### **Entrepreneurship Development**

Internal Assessment: 10 marks

Semester-end Examinations: 40 marks

Total 50 marks

#### **Unit-1: Introduction:**

**No. of classes: 10 / Marks: 10**

Meaning, elements, determinants and importance of entrepreneurship and creative behavior; Entrepreneurship and Micro, Small and Medium Enterprises, Role of family business in India; The contemporary role models in Indian business: their values, business philosophy and behavioural orientations; Conflict in family business and its resolution.

**Unit-2:****No. of classes: 10 / Marks: 10**

Public and private system of stimulation, support and sustainability of entrepreneurship. Requirement, availability and access to finance, marketing assistance, technology, and industrial accommodation, Role of industries/entrepreneur's associations and self-help groups, The concept, role and functions of business incubators, angel investors, venture capital and private equity fund.

**Unit-3:****No. of classes: 10 / Marks: 10**

Sources of business ideas and tests of feasibility. Significance of writing the business plan/project proposal; Contents of business plan/ project proposal; Designing business processes, location, layout, operation, planning & control; preparation of project report

**Unit-4:****No. of classes: 10 / Marks: 10**

Mobilizing Resources - Mobilizing resources for start-up. Accommodation and utilities; Preliminary contracts with the vendors, suppliers, bankers, principal customers; Basic start-up problems;

**Module II**  
**Business Ethics**

Internal Assessment: **10 marks**

Semester-end Examinations: **40 marks**

**Total 50 marks**

**Unit 1: Business Ethics****No. of classes: 8 / Marks: 8**

Introduction – Meaning - Scope – Types of Ethics – features – Factors influencing Business Ethics – significance of Business Ethics - Arguments for and against business ethics- Basics of business ethics - Corporate Social Responsibility and Business Ethics

**Unit 2: Principles of Business Ethics****No. of classes: 8 / Marks: 8**

Introduction – Meaning – Element – Ethics, Morale, Business ethics, Ethical dilemma [basic idea, features and significance of each of element]

**Unit 3: Ethics in Management****No. of classes: 8 / Marks: 8**

Introduction – Ethics in HRM – Ethics in Marketing — Ethics in Accounting and finance - Work place Ethics - Value and Ethics.

**Unit 4: Corporate Culture****No. of classes: 8 / Marks: 8**

Meaning – Role – Functions – Impact of Corporate Culture – Globalization and cross culture issues in ethics, Corporate Code of ethics

## Unit 5: Ethics & Corporate Governance

No. of classes: 8 / Marks: 8

Concept of Corporate Governance, Scope, Reports on Corporate Governance and its benefits and limitations-- Corporate Governance and Business Ethics [Brief Concept]

### Suggested Readings:

- Kuratko and Rao, *Entrepreneurship: A South Asian Perspective*, Cengage Learning.
- Robert Hisrich, Michael Peters, Dean Shepherd, *Entrepreneurship*, McGraw-Hill Education
- Desai, Vasant. *Dynamics of Entrepreneurial Development and Management*. Mumbai, Himalaya Publishing House.
- Dollinger, Mare J. *Entrepreneurship: Strategies and Resources*. Illinois, Irwin.
- Holt, David H. *Entrepreneurship: New Venture Creation*. Prentice-Hall of India, New Delhi.
- Plsek, Paul E. *Creativity, Innovation and Quality*. (Eastern Economic Edition), New Delhi: Prentice-Hall of India. ISBN-81-203-1690-8.
- Singh, Nagendra P. *Emerging Trends in Entrepreneurship Development*. New Delhi: ASEED.
- SS Khanka, *Entrepreneurial Development*, S. Chand & Co, Delhi.
- Hifrich, Manimala, Peters & Shepherd, *Entrepreneurship*, McGraw-Hill
- Kumar Arya, *Entrepreneurship*, Pearson
- Bamford and Bruton, *Entrepreneurship*, McGraw Hill
- SIDBI Reports on Small Scale Industries Sector.
- Roy, *Entrepreneurship*, Oxford
- Albuquerque, *Business Ethics*, Oxford
- Ferrell, Fraedrich, Farrell, *Business Ethics*, Cengage

**Note: Latest edition of text books may be used.**

## CC 4.1 Ch

### TAXATION-I

**Full Marks – 100**

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
<u>Total</u>	<u>100 marks</u>

**Marks shown against the units indicate marks for Semester–end Examinations**

- Unit 1 :**
- a) Basic Concepts and Definitions under IT Act**  
Assessee, Previous year, Assessment year, Person, Income, Sources of income, Heads of income, Gross total income, Total income, Maximum marginal rate of tax, Tax Evasion, Tax avoidance, Tax planning.
  - b) Residential Status and Incidence of Tax**  
Residential status of all persons except company
  - c) Incomes which do not form part of Total Income**  
Except section 10AA.

- d) **Agricultural Income**  
Definition, determination of agricultural and non-agricultural Income, assessment of tax liability when there are both agricultural and non-agricultural income

(L-10 / M-10)

**Unit 2 : Heads of Income and Provisions governing Heads of Income**

- a) *Salaries*  
b) *Income from House property* (L-30 / M-30)

**Unit 3 : Heads of Income and Provisions governing Heads of Income**

- a) *Profits and Gains of Business and Profession*  
Special emphasis on sec. 32, 32AC, 32AD, 35, 35D, 36(i)(ib), (ii), (iii), (iv), (vii), 37, 37(2B), 40A(2), 40A(3), 43B, (Excluding presumptive taxation)  
b) *Capital Gains*  
Meaning and types of capital assets, basic concept of transfer, cost of acquisition, cost of improvement and indexation, computation of STCG and LTCG, exemptions u/s 54, 54B, 54EC and 54F, capital gain on transfer of bonus shares, right entitlement and right shares, taxability of STCG and LTCG.  
c) *Income from Other Sources*

Basis of charge excluding deemed dividend (L-25 / M-25)

**Unit 4 : a) Income of other Persons included in Assessee's Total Income**

- Remuneration of spouse, income from assets transferred to spouse and Son's wife, income of minor.  
b) **Set off and Carry Forward of Losses**  
Mode of set off and carry forward, inter source and inter head set off, carry forward and set off of losses u/s 71B, 72, 73, 74, 74A.  
c) **Deductions from Gross Total Income**  
Basic concepts, deductions u/s 80C, 80CCC, 80CCD, 80CCE, 80D, 80DD, 80DDB, 80E, 80G, 80GG, 80GGC, 80TTA, 80U  
d) **Rebate u/s 87A** (L-15 M-15)

*If any new legislations/provisions are enacted in place of the existing legislations/provisions, the syllabus will accordingly include such new legislations/provisions in place of existing legislations/provisions with effect from such date as prescribed by CALCUTTA UNIVERSITY. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus.*

**Suggested Readings**

- Singhnia V.K., and Singhanian K, Direct Tax Law and Practice, Taxmann
- Lal and Vashist, Direct Taxes, Pearson
- Ahuja and Gupta, Direct Taxes Law And Practice, Bharat
- Manoharan & Hari, Direct Tax Laws, Snow White
- Roy, S. K., Principles and Practice of Direct & Indirect Taxes, ABS
- Sengupta, C.H., Direct & Indirect Taxes, Dey Book Concern

**Latest edition of the books may be read.**

**CC 4.2 Ch**

**Cost and Management Accounting -II**

**Full Marks – 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**



**Marks shown against the units indicate marks for Semester–end Examinations**

<b>Unit</b>	<b>Topic</b>	<b>Content</b>	<b>Marks</b>	<b>Hours</b>
<b>1</b>	<b>Joint Product &amp; By product</b>	Meaning, treatment and apportionment of cost; decision relating further processing	<b>20</b>	<b>18</b>
	<b>Activity Based Costing</b>	Problems of traditional costing; meaning of Activity Based Costing; cost analysis under ABC; application of ABC (Simple problems)		
<b>2</b>	<b>Budget and Budgetary Control</b>	Budget and Budgetary Control; The budget manual, principal budget factor, preparation and monitoring procedures, Fixed and Flexible budget, preparation of functional budgets – concepts, cash budget, flexible budget.	<b>10</b>	<b>12</b>
<b>3</b>	<b>Standard Costing</b>	Standard Costs and Standard Costing; Uses, & Importance. Differences with Budgetary Control, Preliminary Steps. Classification of Standards. Analysis and computation of Materials, Labour and Overhead Costs (concepts only) Variances	<b>20</b>	<b>20</b>
<b>4</b>	<b>CVP Analysis, Marginal Costing</b>	<b>CVP Analysis</b> Introduction; CVP Assumptions and Uses; Break-Even Analysis: BE Point and Margin of Safety; Graphical presentation of CVP Relationship; Profit Graph <b>Marginal Costing and Management Decisions</b> – Marginal Costing vis-à-vis Absorption Costing; Cost statement under marginal costing and absorption costing; Marginal Costing Techniques.	<b>20</b>	<b>15</b>
<b>5</b>	<b>Short-term Decision Making</b>	Marginal Cost and decision relating Product Pricing; Product Mix; Make or Buy; Choosing among alternatives and closing down or suspending an activity. (with simple type of problems)	<b>10</b>	<b>15</b>
		Total	<b>80</b>	<b>80</b>

**Suggested Readings**

- Horngren, Foster & Rajan, Cost Accounting, - A Managerial Emphasis, Pearson
- B.Banerjee, Cost Accounting, PHI
- Jawahar Lal & Seema Srivastava, Cost Accounting, TMH
- M.Y.Khan & P.K.Jain, Management Accounting, TMH
- Atkinson, Management Accounting, Pearson
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann
- Hanif, M., Cost and Managment Accounting, TMH
- Mitra, J.K., Cost and Management Accounting, Oxford
- Drury, C., Management and Cost Accounting, Cengage

## Year 3: Semester V

		Marks	Credit Hours	
CC 5.1Ch	Auditing & Assurance	<b>100</b>	<b>6</b>	
CC 5.2 Ch	Taxation II	<b>100</b>	<b>6</b>	
DSE 5.1 A*	Economics II and Advanced Business Mathematics	<b>100</b>	<b>6</b>	
DSE 5.2 A*	Corporate Accounting	<b>100</b>	<b>6</b>	

**24**

### CC 5.1Ch Auditing & Assurance Full Marks – 100

Internal Assessment: 20 marks

Semester-end Examinations: 80 marks

Total 100 marks

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **UNIT – I CONCEPT, NEED AND PURPOSE OF AUDIT (10M 10L)**

- Definition-Nature-Scope and Objectives of Independent Financial Audit
- Basic Principles Governing an Audit, Concept of Auditor's Independence
- Errors and Fraud-Concepts, Means of doing Fraud, Auditor's Responsibility towards Detection and Prevention of Fraud, Difference between Audit and Investigation
- Classification of Audit- Organization Structure wise (Statutory, Non-statutory); Objective wise (Internal and Independent Financial Audit); Periodicity wise (Periodical, Continuous, Interim, Final); Technique wise (Balance Sheet, Standard, Systems, EDP);
- Standards on Auditing (SA)- Concept and Purpose

*(This unit should be studied with SA 200[REVISED] and SA 240[REVISED])*

#### **UNIT – II AUDIT PROCEDURES AND TECHNIQUES (15M 15L)**

- Auditing Engagement-Audit Planning- Audit Programme (Concept)
- Documentation: Audit Working Paper, Ownership and Custody of Working Papers-Audit file (Permanent and Current) – Audit Note Book- Audit Memorandum.
- Audit Evidence – Concept, Need, Procedures to obtain Audit Evidence
- Routine Checking, Test Checking and Auditing in Depth
- Concept of Analytical Procedure and Substantive Testing in Auditing.
- Audit of Educational Institutions, Hospitals and Hotels

*(This unit should be studied with SA 210, SA 230, SA 300, SA 500, SA 520 and SA 530)*

#### **UNIT – III AUDIT RISK AND INTERNAL CONTROL SYSTEM (10M 10L)**

- Audit Risk – Concept and Types only.
- Internal Control- Definition, Objectives
- Internal Check- Definition, Objectives
- Internal Audit- Definition, Objectives, Regulatory Requirement, Reliance by Statutory Auditor on Internal Auditor's Work

*(This unit should be studied with SA 610)*

#### **UNIT – IV VOUCHING, VERIFICATION AND VALUATION (10M 10L)**

- **Vouching:** Meaning, Objectives - Difference with Routine Checking – Factors to be Considered during Vouching - Vouching of Following Items: i) **Receipts:** Cash Sale, Collection from Debtors, Interest and Dividend from Investment, Sale of Fixed Assets. ii) **Payments:** Cash Purchase, Payment to Creditors, Payment of Wages and Salaries, Advertisement Expenses, Travelling Expenses, Research and Development Expenditure, Prepaid Expenses.
- **Verification and Valuation:** Concept, Objectives, Importance, Difference with Vouching, Difference between Verification and Valuation, Verification of following items: **i) Non-Current Assets:** Goodwill, Patent and Copy Right, Leasehold Land, Plant and Machinery, **ii) Investments** **iii) Current Assets:** Inventory, Loan and Advance, Cash and Bank Balances **iv) Non-current Liability:** Secured Loan **v) Current Liability:** Trade Payables (Sundry Creditors).

#### **UNIT - V COMPANY AUDIT (15M 15L)**

- Qualification, Disqualification, Appointment and Rotation, Removal and Resignation, Remuneration, Rights, Duties and Liabilities of Company Auditor
- Branch Audit and Joint Audit
- Depreciation – Concept and Provisions of the Companies Act
- Divisible Profit and Dividend (Final, Interim and Unclaimed/Unpaid): Provisions of the Act, Legal Decisions and Auditor's Responsibility

#### **UNIT – VI AUDIT REPORT AND CERTIFICATE (10M 10L)**

- Definition – Distinction between Report and Certificate- Different Types of Report
- Contents of Audit Report (As per Companies Act and Standards on Auditing)
- True and Fair View – Concept
- Materiality – Concept and Relevance

*(This unit should be studied with SA 700)*

#### **UNIT – VII OTHER THRUST AREAS (10M 10L)**

- Cost Audit – Concepts, Objectives Relevant Provisions of Companies Act
- Management Audit - Concepts, Objectives, Advantages
- Tax Audit – Concepts, Objectives, Legal Provisions
- Social Audit – Propriety Audit – Performance Audit – Environment Audit (Concepts only)

#### **Notes:**

- 1) **The provisions of the Companies Act, 1956 which are still in force would form part of the syllabus till the time their corresponding or new provisions of the Companies Act, 2013 are enforced.**
- 2) **If new Laws or Rules are enacted in place of the existing laws and rules, the syllabus would include the corresponding provisions of such new laws and rules with immediately following Academic Year.**
- 3) **Students are expected to develop analytical mind for answering problem based questions along with the theoretical questions.**

#### **Suggested Readings:**

- Tandon et al, Practical Auditing, S.Chand
- Gupta & Arora, Fundamentals of Auditing, TMH
- Jha, A., Auditing, Taxmann
- Basu, S. K., Auditing and Assurance, Pearson
- Ghosh, J., Contemporary Auditing and Assurance, Elegant Publishing
- **Standards on Audit (SA) issued by the Institute of Chartered Accountants of India**

## TAXATION-II

**Full Marks – 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total**            **100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

# Module I

## Direct Tax

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total**                      **50 marks**

## Unit 1 : Computation of Total Income and Tax Payable

- a) Rate of tax applicable to different assesses (except corporate assessee)  
b) Computation of tax liability of an individual, Firm (excluding application of AMT)
- (L-15 / M-15)**

## Unit 2 : TAX MANAGEMENT

- a) **Provision for Filing of Return**  
Date of filing of return, relevant forms of return, different types of returns, return by whom to be signed, PAN, TAN
  - b) **Assessment of Return**  
Self assessment u/s 140A, Summary assessment u/s 143(1), Scrutiny assessment u/s 143(3) and Best judgement assessment u/s 144.
  - c) **Advance Tax**  
Who is liable to pay, due dates and computation of advance tax (excluding corporate assesseees)
  - d) **Interest & Fees**  
Section 234A, 234B, 234C, 234F (simple problems on interest and fees)
  - e) **TDS**  
Provisions regarding TDS from salary, interest on securities, horse racing, lottery.
- (L-25 / M-25)**

## Module II

# INDIRECT TAXES

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total                    50 marks**

## Unit 3 : Central Sales Tax

Definitions, incidence and levy of tax, exemptions and exclusions, forms under CST, determination of turnover and tax payable, registration of dealers.

**(L-8 / M-10)**

## Unit 4 : West Bengal Value Added Tax

Concepts and general principles, features, advantages and disadvantages, definitions, incidence and levy of tax, Rates of VAT, Calculation of VAT liability, Input tax credit (including on Capital goods), small dealers and composition scheme, registration of

dealers, cancellation of registration certificate.

**(L-12 / M-10)**

**Unit 5 : Central Excise**

Basic concepts, conditions and taxable event for levy of excise duty, Goods and excisable goods, Manufacture and deemed manufacture, Definitions of factory, broker or commission agent, wholesale dealer, sale or purchase, valuation – MRP, transaction value.

**(L-12 / M-10)**

**Unit 6 : Customs**

Basic concepts, Taxable event, Territorial water, Indian customs water, Goods, Types of Customs duties – Basic, Additional, Protective, Safeguard, Counter-veiling duty on subsidised goods, Anti Dumping, Valuation of Custom Duty.

**(L-8 / M-10)**

*The indirect tax portion of this paper will be replaced by the Goods & Service Tax Law whenever the law is enforced and accordingly revised syllabus will be announced.*

*If any new legislations/provisions are enacted in place of the existing legislations/provisions, the syllabus will accordingly include such new legislations/provisions in place of existing legislations/provisions with effect from such date as prescribed by CALCUTTA UNIVERSITY. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus.*

**Suggested Readings**

- Datey V.S., Indirect Taxes Law And Practice, Taxmann
- Sanjeev Kumar, Systematic Approach to Indirect Taxes, Bharat
- Bangar and Bangar, Students' Guide to Indirect Taxes, Aadhya Prakashan.
- Sengupta, C.H., Direct & Indirect Taxes, Dey Book Concern
- Roy, S. K., Principles and Practice of Direct & Indirect Taxes, ABS

**Latest edition of the books may be read.**

**DSE 5.1 A**

**Macroeconomics and Advanced Business Mathematics (50+50)**

**Full Marks – 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

**Module I**

**Macroeconomics**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

**Unit – I: Introduction**

Concepts and variables of Macroeconomics.

**[L 2 / Marks:2]**

**Unit – II: National Income Accounting**

Concepts and measurement of National Income (numerical examples preferred); Circular flow of income – Real and Nominal GDP –Implicit deflator. [L 6 / Marks:6]

**Unit – III: Determination of Equilibrium Level of National Income**

Simple Keynesian Model; Consumption, saving and investment functions – National income determination; Investment multiplier, Government expenditure multiplier, Tax multiplier, Balanced Budget multiplier. [L 10 / Marks:10]

**Unit – IV: Commodity market and Money market equilibrium**

Concept of demand for Money: Liquidity Preference Approach; Derivation of IS and LM curves –Shifts of IS and LM curves-equilibrium in IS-LM model – Effectiveness of monetary and fiscal policies. [L 10 / Marks:10]

**Unit – V: Money, Inflation and Unemployment**

Concept of supply of money; Measures of money supply – High powered money – Money multiplier. Concept of Inflation – Demand-pull and Cost-push theories of inflation – Monetary and fiscal policies to control inflation; Unemployment: Voluntary and Involuntary, Frictional and Natural Rate of Unemployment (Concepts only). [L 12 / Marks:12]

**Suggested Readings**

- W. H. Branson, Macro Economic Theory and Policy
- Joydeb Sarkhel, Macro Economic Theory
- Mazumdar & Chatterjee, Macroeconomics & Advanced Business Mathematics, ABS
- Dornbusch, Fischer & Startz, Macroeconomics, TMH
- Samuelson & Nordhaus, Macroeconomics, McGraw Hill

**Module II****Advanced Business Mathematics**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b>40 marks</b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

- 1 **Functions, Limit and Continuity:** Definition of functions, Classification of functions, Different types of functions(excluding trigonometrical functions), Elementary ideas of limit and continuity through the use of simple algebraic functions. [ 8 L /8Marks]
- 2 **Differentiation and Integration:** Derivative and its meaning; Rules of differentiation; Geometrical interpretation; Significance of derivative as rate measure; Second order derivatives; Integration as anti-derivative process; Standard forms; Integration by substitution. [ 8 L /8Marks]
- 3 **Applications of Derivative and Integration:** Maximum and minimum values ; Cost function ; Demand function ; Profit function; Increasing and decreasing functions ; Rate measure, Applied problems on Average cost (AC), Average variable cost (AVC), Marginal cost (MC), Marginal revenue (MR), Simple area calculation by integration method. [ 8 L /8Marks]

- 4 **Determinants:** Determinants upto third order, Elementary properties of determinants, Minors and co-factors, Solution of a system of linear equations by Cramer's Rule (up to three variables).  
[ 8 L /8Marks]
- 5 **Matrix:** Definition of matrix, Types of matrices, Operations on matrices (addition, subtraction, multiplication), Adjoint of a matrix, Inverse of a matrix , Solution of a system of linear equations by matrix inversion method (up to three variables).  
[ 8 L /8Marks]

### Suggested Readings

- Basic Mathematics and its Application in Economics – S. Baruah (Macmillan )
- Mathematics for Economics and Business – R. S. Bhardwaj (Excel Books)
- Mathematical Analysis for Economists - R. G. D. Allen(Macmillan)
- Mathematics for Management – M. Raghavachari ( Tata McGraw-Hill )
- Mathematics for Business, Economics and Social Science – F. S. Budnick(Tata McGraw Hill)
- Advanced Business Mathematics – J. Chakraborti ( Dey Book Concern)
- Advanced Business Mathematics – R K Ghosh & S Saha ( New Central Book Agency(P) Ltd
- Advanced Business Mathematics – Dr. Priyotosh Khan ( Elegant Publication)
- Advanced Business Mathematics – Dr. S N De (Chhaya Prakashani)
- Advanced Business Mathematics - N K Nag & S K Nag ( Kalyani Publishers)
- Advanced Business Mathematics – Dr. Ranjit Dhar (Dishari Prakashani)

### DSE 5.2 A CORPORATE ACCOUNTING Full Marks – 100

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

## CORPORATE ACCOUNTING

Unit	Topic	Details	Marks allotted	No. of lectures
1	Company – Introduction  And  Accounting for Shares & debentures	<ul style="list-style-type: none"> <li>• Meaning of Company; Maintenance of Books of Accounts; Statutory Books; Annual Return</li> <li>• Issue of Shares – issue, forfeiture, reissue, issue other than in cash consideration and issue to the promoters; Pro-rata issue of shares. Issue of debentures. Sweat equity.</li> <li>• Right and Bonus Share – Rules, Accounting</li> <li>• Underwriting of shares and debentures: Rules; Determination of Underwriters Liability – with marked, unmarked &amp; firm underwriting; Accounting.</li> <li>• Employee Stock Option Plan – meaning; rules; Vesting Period; Exercise Period. Accounting for ESOP. Meaning and Accounting of ESPS.</li> </ul>	20	20
2	Buy back and Redemption of preference shares	<ul style="list-style-type: none"> <li>• Buy Back of Securities – meaning, rules and Accounting.</li> <li>• Redemption of Preference Shares – Rules and Accounting (with and without Bonus Shares)</li> </ul>	10	10
3	Company Final Accounts	<p>Introduction to Schedule III; Treatment of Tax; transfer to reserve, Dividend and applicable tax (out of current profit, out of past reserve); Preparation of Statement of Profit &amp; Loss and Balance Sheet.</p> <p>(tax on net profit without recognizing deferred tax)</p>	15	15
4	Redemption of debenture	Redemption of Debenture – Important Provisions, Accounting for Redemption: by conversion, by lot, by purchase in the open market (cum and ex-interest), held as Investment and Use of Sinking Fund	10	10
5	Valuation	<p>Goodwill – valuation using different methods,i.e., Average Profit, Super Profit, Capitalisation and Annuity.</p> <p>Shares – Valuation using different methods: Asset approach, Earnings approach, Dividend Yield, Earnings-Price, Cum-div and Ex-div, Majority and Minority view and Fair Value</p>	10	10



6	Company Merger And Reconstruction	<ul style="list-style-type: none"> <li>Amalgamation, Absorption and Reconstruction– Meaning; relevant standard and meaning of different terms, Accounting in the books of Transferor Company. Accounting in the books of Transferee (based on relevant accounting standard); inter-company transactions (excluding inter-company share holding).</li> <li>Internal reconstruction – meaning, provisions and Accounting, Surrender of Shares for redistribution; preparation of Balance Sheet after reconstruction</li> </ul>	15	15
		Total	80	80

***Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.***

#### **Suggested Reading**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. II, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. II, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. II, Vikash Publishing
- Sehgal & Sehgal, Advanced Accountancy Vol. I II, Taxman Publication
- Hanif & Mukherjee, Financial Accounting, Vol III , TMH
- Frank Wood, Business Accounting Vol II, Pearson
- V.K.Goyal, Corporate Accounting, Excel Books
- Rajasekaran, Corporate Accounting, Pearson
- Accounting Standards issued by ICAI

### **DSE Papers**

#### **SEMESTER V**

#### **DSE 5.1 M : Consumer Behaviour & Sales Management (50+50)**

**Full Marks – 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **Module I: Consumer Behaviour Marks**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 1 : Consumer Behaviour****No. of Classes 8 / Marks 8**

• Concept : Application of Consumer Behaviour Knowledge
• Consumer Behaviour Model
• Market Segmentation
• Marketing Ethics

**Unit 2 : Determinants of Consumer Behaviour****No. of Classes 8 / Marks 8**

• Consumer as an Individual, Need, Motivation
• Personality, Perception, Learning Attitude
• Communication persuasion
• Consumers in their Social & Cultural Setting, the family, Social class, cross cultural consumer behaviour

**Unit 3 : Consumer Decision-making Process****No. of Classes 8/ Marks 8**

• Personal Influence & Opinion
• Leadership Process
• Diffusion of innovations
• Consumer decision making process

**Unit 4 : Consumer Behaviour & Society****No. of Classes 8 / Marks 8**

• Health - care Marketing
• Political marketing
• Social Marketing
• Environmental Marketing
• Public Policy & Consumer Protection

**Unit 5 : Consumer Behaviour and Market Research****No. of Classes 8 / Marks 8**

• Relevance of Marketing Information System
• Market Research in assessing Consumer Behaviour

**Suggested Readings:**

- Suhiffman & Kanuk, Consumer Behaviour, PHI
- Loudon & Bitta, Consumer Behaviour, TMH
- Bennet & Kassarjian, Consumer Behaviour, PHI
- Batra & Kazmi, Consumer Behaviour, Text & cases, Excel Books
- Beri, Marketing Research, TMH
- Bradley, marketing Research. Oxford University Press
- Schiffman and Kannak, Consumer Behaviour, Pearson Education

## **Module II : Sales Management**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

### **Unit 1 : Sales Organization**

**No. of Classes 8 / Marks 8**

• Purpose and General principles of organization
• Every-growing complexity of Sales Organisation
• Different Models of Sales Organisation
• Factors determining Sales Organisation Structure
• Decentralised Structure
• Common problems associated with Structuring the Sales Organisation
• Modification of Sales Organisation
• Tasks of Chief Sales Executive

### **Unit 2 : Designing the Sales Force**

**No. of Classes 8 / Marks 8**

• Objectives
• Strategies
• Structure size
• Sales force Compensation

### **Unit 3 : Managing the Sales Force**

**No. of Classes 8/ Marks 8**

• Recruitment
• Selection
• Placement
• Transfer
• Training and Development
• Grievances handling of Sales Force
• Motivating Leading and Communicating with the Sales Force
• Performance Evaluation of Sale Force

### **Unit 4 : Personal Selling and Salesmanship**

**No. of Classes 8 / Marks 8**

• Buyer-Seller Dyads
• Theories of selling
• Personal Selling as a Career
• Steps in Personal Selling – Methods of Approaching a Customer
• Handling Customer Objections
• Negotiations – Bargaining and Negotiation Approaches, Bargaining Strategies and Tactics during Negotiation

## **Unit 5 : Marketing Channels and Selection**

**No. of Classes 8 / Marks 8**

• Need
• Functions
• Levels
• Identifying and Analyzing Customers' needs for Products Services
• Developing channel Objective, Selection of Appropriate Channel
• Selection of Appropriate channels
• Motivating, Leading, Communicating with the Channel Members
• Performance Evaluation of the Channel Members
• Modifying Channel Arrangements

### **Suggested Readings:**

- Cundiff, Still and Govoni, Sales management, PHI
- Smith, Sales Management, PHI
- Kotler, Marketing Management, PHI
- Zieglar, et al Sales Promotion and Modern Merchandising
- Stem, Ansary and Coughlan Marketing Channels, PHI
- Warmer, Marketing and Distribution, Macmillan, New York
- Pyle, Marketing Principles, Macmillan, New York
- Doughlas, et al Fundamentals of Logistics and Distributions, TMH
- Gupta, Sales and Distribution Management, Excel Books
- Havaladar & Cavale, Sales and Distribution Management, McGraw Hill
- Hawkins, Motherbaugh & Mookerjee, Consumer Behaviour, McGraw Hill
- Schiffman, Wisenblit & Kumar, Consumer Behaviour, Pearson

## **DSE 5.2 M : Product & Pricing Management & Marketing Communication**

**Full Marks – 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

### **Module I: Product & Pricing Management**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1 : Introduction to Product Management****No. of Classes 8 / Marks 8**

• Product: Basic concept of product, levels, Importance in Marketing Mix, Product Mix Decisions
• Product-Life-Cycle: Concept, strategies related to different stages of PLC.
• Product Portfolio: Concept, Importance, BCG Model

**Unit 2 : Marketing Environment and Market segmentation****No. of Classes 8/ Marks 8**

• Marketing Environment: concept, Importance, Micro-environmental factors and Macro-environmental factors (Demographic, Economic, Natural, Technological, Socio-Cultural & Political-Legal)
• Market segmentation: Concept, Importance and bases

**Unit 3 : New Product Development****No. of Classes 8 / Marks 8**

Concept
Importance
Stages
Reasons for failure of a new product
Adoption process.

**Unit 4 : Packaging and Branding:****No. of Classes 8 / Marks 8**

Packaging:
• Concept
• Importance
• Packaging Strategies
• Legal and Ethical aspects of packaging
Branding:
• Concept
• Importance
• Positioning and repositioning strategies
• Basic concepts of Brand equity

**Unit 4 : Pricing Management:****No. of Classes 8 / Marks 8**

• Concept
• Important features of pricing as an element of Marketing Mix
• Importance of pricing in consumer buying process
• Determining factors of effective pricing
• Pricing methods
• Pricing in the Indian context
• Regulatory Price Environment

**Suggested Reading:**

- Kotler and Kellar, Marketing Management, Pearson

- William and Ferrell, Marketing, Houghton Mifflin McGraw-Hill
- Neelamegham, Marketing in India: Cases and Readings, Vikas Publishing
- Majumder, Product Management in India, PHI
- McCarthy and Perreault, Basic Marketing Managerial Approach, Irwin, Homewood, Illinois
- Srivastava, R. K., product Management & New product Development, Excel Book
- Ramaswamy and namakumari, Marketing Management, Macmillan India
- Srinivasan Case Studies in marketing: The India Context, PHI
- Baker & Hart, Product Strategy and Management, Pearson

## **Module II: Marketing Communication**

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

### **Unit 1 : Communication Process**

**No. of Classes 8 / Marks 8**

• Importance of communication
• Steps involved in the process of Communication
• Barriers to Marketing Communication
• Social Media, Digital Marketing- Concepts

### **Unit 2 : Communication Mix**

**No. of Classes 8 / Marks 8**

• Advertising : Definition & Importance
• Different Advertising Function
• Types of Advertising
• Advertising Process
• Setting Advertising Objective
• Budget
• Economic aspects of Advertising

### **Unit 3 : Advertising Process**

**No. of Classes 8 / Marks 8**

• Advertising Appeal
• Copy Writing
• Headline
• Illustration
• Message
• Copy Type
• Campaign Planning
• Different Types of Media
• Media Planning
• Scheduling

**Unit 4 : Impact of Advertising****No. of Classes 8 / Marks 8**

• Advertising Agency Roles
• Relationships with Clients
• Role of Advertising Department
• Measuring Advertising Effectiveness
• Legal and Ethical Aspects of Advertising

**Unit 5 : Sales Promotion****No. of Classes 8/ Marks 8**

• Meaning
• Nature and Function
• Types
• Sales Promotion Techniques (Sample Distribution, Coupon, Price off premium plan, Consumer contests, Displays Demonstration, Trade Fairs and Exhibitions)
• Role of Sales force
• Limitation of Sales Promotion

**Suggested Readings:**

- Batra and Myers, Advertising Management, Prentice Hall
- Sengupta, Brand Positioning Strategies for Competitive Advantage, TMH
- Cundiff, Still and Govoni, Sales Management, Prentice Hall
- Rossiter and Percy, Advertising and Promotion Management, MacGraw-Hill Sundage,
- Fryburger and Rotzoll, Advertising Theory and Practice, AITBS
- Belch and Belch, Advertising and Promotion, McGraw Hill

**DSE 5.1T**  
**PUBLIC FINANCE AND TAXATION**

**Full Marks – 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks****Marks shown against the units indicate marks for Semester–end Examinations****Unit 1: Origin and Development of Public Finance ( 8 L /8 Marks)**

- *Meaning, The rationale for State intervention – market failure, externalities, public goods*
- *Public finance and private finance, principle of maximum social advantage*

**Unit 2: Taxation and Government Revenue (12 L /12 Marks)**

- *Benefit approach, Ability to pay approach*
- *Impact and incidence of taxation, Direct and indirect taxes, Excess burden of taxes*
- *Sources and classification of public revenues*

Unit 3: <b>Government Expenditure</b>	<b>(4L /4Marks)</b>
• Provision of public goods and merit goods, redistribution objective of public expenditure	
Unit 4: <b>Impact of Taxation and Public Expenditure</b>	<b>(8 L /8Marks)</b>
• <i>Effect on production, investment, distribution and stability</i>	
Unit 5: <b>Public Debt – Meaning, Impact and Management</b>	<b>(8 L /8Marks)</b>
Unit 6: <b>Development of Federal Finance in India</b>	<b>(8 L /8 Marks)</b>
• <i>The constitutional arrangements, Finance Commissions</i>	
Unit 7: <b>Central Finances in India</b>	<b>(8 L /8 Marks)</b>
• <i>Sources and uses of funds, effects of Fiscal Policy</i>	
• <i>Different concepts of Deficit- Impact of deficit</i>	
Unit 8: <b>State Finances</b>	<b>(8 L /8 Marks)</b>
• <i>Sources and uses of funds, issues of federalism</i>	
Unit 9: <b>Fiscal Reforms in India</b>	<b>(8 L /8 Marks)</b>
• <i>Changing scenario of Indian tax Structure, FRBM Act</i>	
Unit 10: <b>Issue of Public Debt in India –Internal and External</b>	<b>(8 L /8 marks)</b>

**Suggested Readings:**

- Musgrave, R., The Theory of Public Finance, McGraw Hill
- Musgrave & Musgrave, Public Finance in Theory and Practice, McGraw Hill
- Bhargava B.M., The Theory and Working of Union Public of India
- Vaish & Agarwal, Public Finance, Willy Eastern
- Rosen, S.H. & Gayer, T., Public Finance, McGraw Hill

**DSE 5.2 T**  
**DIRECT TAX LAW AND PRACTICE**  
**Full Marks – 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

<b>Unit 1 :</b>	<p>a) <b>Residential Status and Incidence of Tax</b> Residential status of a company &amp; tax incidence. Income deemed to accrue or arise in India u/s 9.</p> <p>b) Incomes which do not form part of Total Income Sec 10(11A), 10(12A), 10(30), 10(31), 10(34) read with sec. 115BBDA, 10(35), 10(43) and 10AA. (L-10/M-10)</p>
<b>Unit 2 :</b>	<p><b>Heads of Income and Provisions Governing Heads of Income</b></p> <p>a) <i>Profits and gains of business or profession</i> Advance level discussion with special emphasis on presumptive taxation</p> <p>b) <i>Capital Gains</i> Advance level discussion with special emphasis on transfer, treatment u/s 45(1A), 45(2), 45(3), 45(4), 45(5), Transfer of assets between holding and subsidiary company, and exemptions.</p> <p>c) <i>Income from other sources</i> Advance level discussion with special emphasis on gift and deemed dividend. (L-25 / M-25)</p>



- Unit 3 :**
- Income of other Persons included in Assessee's Total Income**  
Revocable transfer of assets, Income from assets transferred to the benefit of spouse and son's wife, conversion of self acquired property into joint family property.
  - Deductions from Gross Total Income**  
Deductions u/s 80IAB, 80IAC, 80IBA, 80IE, 80JJ, 80JJAA  
(L-10/ M-10)
- Unit 4 :**
- Relief U/S 89*
  - Double Taxation Relief*
  - Business Restructuring – Amalgamation, Demerger, Stump Sale with special reference to treatment of depreciation and capital gains.*  
(L-10 / M-10)
- Unit 5 :**
- Computation of Total Income and Tax Payable**  
Advance level problems on computation of total income and tax liability of an individual, HUF, Firm, LLP and AOP (including application of AMT)  
(L-25 / M-25)

#### ***Suggested Readings***

- *Singhnia V.K., and Singhania K, Direct Tax Law and Practice, Taxmann*
- *Lal and Vashist, Direct Taxes, Pearson*
- *Ahuja and Gupta, Direct Taxes Law And Practice, Bharat*
- *Manoharan and Hari, Direct Tax Laws, Snowwhite*

***Latest edition of the books may be read.***

### **DSE 5.1eB**

#### **FUNDAMENTALS OF COMPUTER**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Unit 1. Computer Basics:** Characteristics of computer. Generations of computer. Type of computer – Mainframe, Mini, Micro (desktop, laptop and handheld), Super Computer. Inside a Computer – Power supply (SMPS), Motherboard, Ports and interfaces, Expansion Cards, memory Chips, Ribbon Cables, Storage devices, Processor. [15 lectures / 12 Marks]

**Unit 2. CPU organisation and architecture:** Arithmetic/Logic Unit (ALU), control Unit (CU), Registers, System Bus, Processor to Memory Communication Processor to I/O devices Communication. [12 lectures / 12 Marks]

**Unit 3. Memory organization:** Memory representation, Cache memory, Primary memory – RAM and ROM. Functions of RAM and ROM. Different types of RAM and ROM. Secondary memory – Magnetic and optical storage devices (brief description of different types). Storage organization of a Magnetic disk. Mass storage devices – RAID, Automated Tape Library. [10 lectures / 10 Marks]

**Unit 4. Input and Output devices:** Major types and their functions. [6 lectures / 6 Marks]

**Unit 5. Operating System:** Concept, types, functions. [6 lectures / 6 Marks]

**Unit 6. Problem Solving Tools: Algorithm. Flowcharts-** Concepts, advantages and disadvantages of flowcharts, Problem solving using flowcharts.

**Decision Tables -** Concepts, advantages and disadvantages of decision tables, Problem solving using decision tables. [10 lectures / 12 Marks]

**Unit 7. Data communication and Computer networks:** Transmission Modes - Simplex, Half-Duplex, Full Duplex. Analog and digital transmission. Synchronous and Asynchronous transmission.

Multiplexing. Network Concept, Types - LAN, WAN, MAN, VAN, SAN.  
Various Topologies - Bus, Star, Ring, Mesh, Tree. Protocol Models - OSI, TCP/IP  
[16 lectures/ 16 Marks]

**Unit 8. Multimedia essentials:** Definition, building blocks of multimedia, multimedia system, multimedia application. [5 lectures / 6 Marks]

**Suggested Readings:**

- ITLESL, Introduction to Computer Science, Pearson Education
- ITLESL, Introduction to Information Technology, Pearson Education
- .Sinha & Sinha, Fundamentals of Computers, BPB Publication.
- .Rajaraman, Fundamentals of Computers, PHI

## **DSE 5.2 eB**

### **DATABASE MANAGEMENT SYSTEM & SYSTEM ANALYSIS AND DESIGN**

**Full Marks 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **Module I: DATABASE MANAGEMENT SYSTEM**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Introduction to DBMS:** Concepts of database and database management system(DBMS). Data abstraction. Architecture – three schema architecture. Administration roles. (L8 /M8)

**Unit 2. Data models:** hierarchical model, network model and relational model. (L6 /M6)

**Unit 3. Database languages:** Data Definition Language (DDL), Data Manipulation Language (DML), and Data Control Language(DCL). (L6 /M6)

**Unit 4. SQL – An Overview:** SQL constructs, embedded SQL , Query & Query Optimization Techniques. (L6 /M6)

**Unit 5. Database design:** Design phases - conceptual, logical and physical . ER diagram and model. (L6 /M6)

**Unit 6. Database Normalisation:** Concept. Normal forms - 1NF, 2NF, 3NF, BCNF. (L4 /M4)

**Unit 7. Indexing;** Single level indexing - Primary, Clustering, Secondary. Multilevel indexing. (L4 /M4)

**Suggested Readings:**

- Korth, Data Base System Concepts, TMH
- Leon,Data Base Management System, VIKAS
- Ivan Bayross, PL/SQL Programming

#### **Module II:SYSTEM ANALYSIS AND DESIGN**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Overview of System analysis and design:** system concepts. System Development models – Waterfall model, Spiral model. System development methods – major steps. (L8 /M8)

**Unit 2. Phases in System Development:** Problem definition. Analysis. Design. Implementation. Evaluation. (L6 /M6)

**Unit 3. Information requirement analysis:** Process modelling with physical and logical data flow

diagrams. (L10 /M10)

**Unit 4. System design:** Process descriptions, Input/output controls, object modeling, Database design, User Interface design, Documentation, Data Dictionary, Development methodologies: Top down, bottom up, structured chart, decision table, decision tree. (L10 /M10)

**Unit 5. Testing** – Unit, integration, system, Acceptance, regression, Test Case generation. (L6 /M6)

**Suggested Reading:**

- Parthasarathi, System Analysis & Design, EPH
- Raja Raman, Analysis & Design of Information Systems, PHI

### Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	100	2	
SEC 6.1Chg	Computerised Accounting and e-Filing of Tax Returns (70+30)	100	4	
CC 6.1 Ch	Project Work	100	6	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	100	6	
DSE 6.2 A**	Financial Management	100	6	

24

### SEC 6.1Chg

#### COMPUTERISED ACCOUNTING SYSTEM and E-FILING OF TAX RETURN

Full Marks 100

Internal Assessment: 20 marks

Semester-end Examinations: 80 marks

Total 100 marks

Marks shown against the units indicate marks for Semester–end Examinations

#### Unit-1: Computerized Accounting Package: Using Generic Software [40 Marks, Class: 40]

- Company creation, ledger creation, order processing, accounting voucher, inventory voucher, memorandum voucher, invoicing, multiple godown handling, Transfer of materials across godowns, Bank Reconciliation,
- Cost Centre, Cost Category, Bill of Material (BoM), Budget and Controls
- Payroll Accounting
- TDS, GST
- Back up & Restore, Export and Import data

**Unit 2: Designing Computerized Accounting System****[15 Marks, Class:15]**

- (a) Introduction to DBMS Package – Table, Query, Form and Report
- (b) Designing Computerized Accounting System using DBMS Package  
Creating a voucher entry Form, Preparing ledgers, trial balance, profit & loss a/c, and balance sheet with Form wizard and Report
- (c) Designing Payroll System for Accounting using Form, Query, and Report

**Unit-3: E-filing of Tax return [25 Marks, Class: 25]**

- (a) Preparation and submission of the Income Tax Return (ITR) offline/online for individual taxpayer [e-filing without using DSC and with using DSC, EVC]
- (b) View form 26AS, Upload return, View e-file returns, e-verification
- (c) Use of e-tax calculator (including interest calculation u/s 234A, 234B, 234C)
- (d) E-Pay tax (Challan No./ITNS 280, ITNS 281)
- (e) Preparation and submission online form 10E [Relief u/s 89(1)]

Project Work: Assignment based for each and every topic should be prepared

- Software: Singhanian, V.K., E-Filing of Income Tax Returns and Computations of Tax, Taxmann
- Software: “Excel Utility”, [incometaxindiaefiling.gov.in](http://incometaxindiaefiling.gov.in)

**CC 6.1 Ch****Project Work (Project Report - 50 + Viva-Voce Examination - 50)****Full Marks 100****DSE 6.1 A****FINANCIAL REPORTING AND FINANCIAL STATEMENT ANALYSIS****Full Marks 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**FINANCIAL REPORTING AND FINANCIAL STATEMENT ANALYSIS**

Unit	Topic	Details	Marks allotted	No. of lectures
1	Holding Company	Meaning of Holding Company & Subsidiary Company; relevant standard; Consolidation of Balance Sheets of Parent & Subsidiary (only one); Minority Interest – Basic principles and preparation of CBS; CBS with loss balance of Subsidiary Treatment for: Revaluation of Assets of Subsidiary, Intra-	15	15

		group Transactions, Holding of different securities. Consideration of dividend paid or proposed by Subsidiary in CBS; Bonus Shares issued or proposed to be issued by Subsidiary (excluding shares acquired on different dates by the Parent company, chain and cross holding)		
2	Accounting Standards	Conceptual Framework, Presentation of Financial Statements (Ind AS 1), Property, Plant and Equipment (Ind AS 16), Earnings per share (Ind AS 33), [Basic Definitions & Theoretical Concepts, Scope]	15	15
3	Fund Flow Statement	Concept of fund, meaning, nature, various sources And applications, advantages & limitations of Fund Flow Statement.	20	5
4	Cash Flow Statement	Meaning, objectives, difference with Fund Flow Statement; activity classification and preparation and presentation as per relevant Accounting Standard.		15
5	Introduction to Financial Statements Analysis	Nature and Component of Financial Statement; Meaning and Need for FSA, Traditional & Modern approaches to FSA, Parties interested in FSA. • Comparative Statement – meaning, preparation, uses, merits and demerits • Common -size Statement – meaning, preparation, uses, merits and demerits • Trend Analysis – meaning, determination, uses, merits and demerits	10	12
6	Accounting Ratios for FSA	Meaning, objective, Classification of Accounting Ratios, Advantages & Limitations Preparation of Classified Financial Statements and Statement of Proprietor's Fund from the given Ratios. Computation, Analysis and Interpretation of important ratios for measuring –Liquidity, Solvency, Capital Structure, Profitability and Managerial Effectiveness.	20	18
			80	80

**Suggested Readings:**

- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. II, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. II, Vikash Publishing
- Sehgal & Sehgal, Advanced Accountancy Vol. I II, Taxman Publication

- Accounting Standards issued by ICAI
- L.S.Porwal, Accounting Theory, Tata Mcgraw Hill
- Gokul Sinha, Accounting Theory & Management Accounting,
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Lev, Financial Statement Analysis-a new approach, Prentice Hall
- Foster G, Financial Statement Analysis, Prentice Hall
- White, Sondhi& Fred, Analysis and Use of Financial Statement, John Wiley
- Bernstein & Wild, Financial Statement Analysis; theory, application & interpretation, Mcgraw Hill
- Ormiston, Understanding Financial Statement, Pearson
- Bhattacharyya, Asish K., Introduction to Financial Statement Analysis, Elsevier
- Hanif & Mukherjee, Financial Accounting, Vol III, McGraw Hill
- Subramanyam, K.R. and Wild, Financial Statement Analysis, McGraw Hill

## DSE 6.2 A

### FINANCIAL MANAGEMENT

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Content	Marks	Hours
1	Introduction	<ul style="list-style-type: none"> <li>▪ Important functions of Financial Management</li> <li>▪ Objectives of the firm: Profit maximisation vs. Value maximisation</li> <li>▪ Role of Chief Financial Officer.</li> <li>▪ Financial environment in which a firm has to operate</li> </ul>	10	10
	Basic Concepts	<ul style="list-style-type: none"> <li>• Time Value of Money: concept and reasons</li> <li>• Compounding and Discounting techniques</li> <li>• Concepts of Annuity and Perpetuity.</li> <li>• Risk-return relationship (concepts only)</li> </ul>		
2	Sources of Finance and Cost of Capital	<ul style="list-style-type: none"> <li>• Different sources of finance; long term and short term sources</li> <li>• Cost of capital: concept, relevance of cost of capital, Implicit and Explicit cost, specific costs (its computation) and weighted average cost (its computation) , rationale of after tax weighted average cost of capital, marginal cost of capital (its computation).</li> </ul>	10	10
3	Leverage and Capital Structure Theories	<ul style="list-style-type: none"> <li>• EBIT-EPS analysis and its limitations. Financial break even, point of indifference</li> <li>• Leverage- Business Risk and Financial Risk - Operating and financial leverage, Trading on Equity</li> <li>• Capital Structure decisions - Capital structure patterns, designing optimum capital structure, Constraints, Features of sound capital structure,</li> </ul>	10	10

		Various capital structure theories (excluding M-M model).		
4	<b>Working Capital Management (1)</b>	<ul style="list-style-type: none"> <li>• Introduction; Meaning and various concepts of Working Capital</li> <li>• Management of Working Capital and Issues in Working Capital</li> <li>• Estimating Working Capital Needs; Operating or Working Capital Cycle.</li> </ul>	10	10
5	<b>Working Capital Management (2)</b>	<ul style="list-style-type: none"> <li>▪ Policies relating Current Assets – Conservative, Aggressive and Balanced</li> <li>▪ Various sources of finance to meet working capital requirements; Financing current assets: Strategies of financing (Matching, Conservative, and Aggressive policies)</li> <li>▪ Management of components of working capital (debtors management only–credit period -simple type )</li> </ul>	10	10
6	<b>Capital Expenditure Decisions (1)</b>	<ul style="list-style-type: none"> <li>• Purpose, Distinguishing features, Objectives &amp; Process, Understanding different types of projects</li> <li>• Concept of Cash flow; Cash flow vis-à-vis Profit and determination of Cash flow</li> <li>• Techniques of Decision making: Non-discounted and Discounted Cash flow Approaches</li> <li>• Payback Period method, Accounting Rate of Return and their relative merits and demerits</li> </ul>	10	10
7	<b>Capital Expenditure Decisions (2)</b>	<ul style="list-style-type: none"> <li>• Discounted Payback Period, Net Present Value, Profitability Index and Benefit Cost ratio, Internal Rate of Return, relative merits and demerits of the methods.(excluding replacement decision)</li> <li>• Ranking of competing projects, Ranking of projects with unequal lives. Capital Rationing.</li> </ul>	10	10
8	<b>Dividend Decisions</b>	<ul style="list-style-type: none"> <li>▪ Meaning, Nature and Types of Dividend, Dividend and Retention; concept of pay-out ratio, retention ratio and growth.</li> <li>▪ Dividend policies and formulating a dividend policy</li> <li>▪ Dividend Theories: Walter's Model, Gordon's Model,</li> </ul>	10	10
		Total	80	80

### Suggested Readings

- M.Y.Khan & P.K.Jain, Financial Management, TMH
- Van Horne, Financial Management & Policy, Pearson
- Van Horne, Fundamentals of Financial Management, PHI
- Banerjee, B., Financial Policy & Management Accounting, PHI
- Chandra,P., Financial Management, TMH
- Rustagi, R.P. *Fundamentals of Financial Management*. Taxmann Publication Pvt. Ltd.
- Pandey, I.M. *Financial Management*. Vikas Publications.
- Majumdar, Ali and Nesha, Financial Management, ABS
- Kothari, R, Financial Management, Sage

**DSE 6.1 M**  
**Retail Management and Marketing of Services (50+50)**  
**Full Marks 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**Module I: Retail Management**

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

**Unit 1 : Introduction to Retailing**

**No. of Classes 8 / Marks 8**

• Relevant Concept
• Importance
• Function

**Unit 2 : Retailing in India**

**No. of Classes 8 / Marks 8**

• Factors determining Growth of Retailing in India
• Impact of Retail in Nation's Economy
• Key Drivers of the Indian Retail Industry

**Unit 3 : Retail Formats**

**No. of Classes 8 / Marks 8**

• Concept
• Types of Retailing – Multi Channel Retailing, Single Channel Retailing
• Product factors of Retail format
• Location factors of Retail format
• Current Indian Scenario

**Unit 4 : Pricing in Retail**

**No. of Classes 8 / Marks 8**

• Price factors of Retail format
• Importance of Retail Pricing
• Factors affecting Retail Pricing
• Approaches to Product Pricing



## **Unit 5 : Promotion in Retail**

**No. of Classes 8 / Marks 8**

• Need and Objective of Promotional Mix in Retailing
• Promotional Mix and Strategy development
• Customer Relationship Management

### **Suggested Reading**

- Madaan, Fundamentals of Retailing, Tata McGraw-Hill
- Pradhan, S., Retailing Management, McGraw Hill
- Seshanna & Prasad, Retail Management, McGraw Hill
- Berman, Evans & Mathur, Retail Management, Pearson ☐

## **Module II: Marketing of Services**

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

## **Unit 1 : Introduction to Services Marketing & Services and economy of a country**

**No. of Classes 8 / Marks 8**

• Concept of services
• Types
• Function
• Nature
• Characteristics
• Understanding Services Customers
• Impact of service marketing in the economy of a country

## **Unit 2 : Issues in Marketing of Services**

**No. of Classes 8 / Marks 8**

• Service- Product or Packages
• Pricing in Services
• Place in Services
• Promotion of Service
• People in Services
• Physical Evidence
• Process Management

## **Unit 3 : Service Marketing Management**

**No. of Classes 8 / Marks 8**

• Managing Services Quality
• Relationship marketing - Concept
• Service Communication Mix
• Communication Strategy

**Unit 4 : Consumer Behaviour and Service****No. of Classes 8 / Marks 8**

• Consumer Behaviour consideration
• Guidelines for Developing Service Communications
• Consumer Decision making process & ethical issues (concepts, factors influence decision making process, ethical decision making methods)

**Unit 5 : Service Marketing in Non-profit and profit Organisations****No. of Classes 8 / Marks 8**

Travel and Tourism
Financial Services
Information Technology Services
Media Services
Health Care Services
Educational Services

**Suggested Reading**

- Verma, H. V., Services Marketing, Pearson
- Venugopal and Raghu, Services Marketing, Himalaya Publishing Ltd.
- Ravi Shankar, Services Marketing : The Indian Perspective, Excel Books
- Rampal & Gupta, Services Marketing, Concepts, Applications & Cases, Galgotia
- Apte, Services Marketing, Oxford University Press

**DSE 6.2 M****Rural Marketing and International Marketing (50+50)****Full Marks 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**Module I: Rural Marketing****Internal Assessment: 10 marks****Semester-end Examinations: 40 marks****Total 50 marks****Unit 1 : Rural Marketing and Environment****No. of Classes 8 / Marks 8**

• Concept
• Importance
• Rural vs. Urban Marketing
• Geographic
• Economic
• Socio-Cultural
• Infrastructural factors
• Their influence on Rural Marketing Operation

**Unit 2 : Rural Consumer****No. of Classes 8 / Marks 8**

• Characteristics
• Attitudes
• Behaviour
• Buying Patterns and Influences

**Unit 3 : Rural Marketing Strategies****No. of Classes 8 / Marks 8**

• Segmenting Rural markets
• Product Planning for Rural markets
• Market Size
• Packaging and Branding Decisions
• Pricing Decisions

**Unit 4 : Promotion and Distribution in Rural Markets****No. of Classes 8 / Marks 8**

• Promotion in Rural Markets
• Distribution Channels and Logistics in Rural Markets

**Unit 5 : Marketing of Agricultural Products****No. of Classes 8 / Marks 8**

• Pricing
• Distribution of Agricultural Products
• Role of Government
• Other organization in Marketing Agricultural products
• Co-operative Marketing
• Problems in Agricultural Marketing

**Suggested Readings:**

- Rajagopal, Management of Rural Business, Wheeler
- Neelamegham, Marketing in India : Cases and Redings, Vikas Publishing
- Mathur, U. C., Rural Marketing, Wheeler
- Nyayar and Ramaswamy, Globalization and Agricutural Marketings, Rawat Publishers
- Mamoria, Agricultural marketing, Himalaya Publisheing House
- Kashyap, P., Rural Marketing, Pearson

## **Module II: International Marketing**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

### **Unit 1 : Introduction**

**No. of Classes 8 / Marks 8**

• Definition
• Nature and Scope of International Marketing
• International Marketing Environment (Basic Concepts) PESTL-SOWC
• Market Entry (When-Why-How)
• Entry Strategy (Concept - Features - Advantages and Disadvantages)

### **Unit 2 : Product/ Service Planning for International Market**

**No. of Classes 8 / Marks 8**

Categorization (Standardisation / Adaptation) of Product/ Service Planning
• Packaging and Labelling
• Quality
• After Sales services

### **Unit 3 : International Pricing**

**No. of Classes 8 / Marks 8**

• Factors influencing International Price
• Pricing Strategy
• Export Price
• Price Quotation and Payment Terms

### **Unit 4 : Promotion and Distribution of Product/Service Abroad**

**No. of Classes 8/ Marks 8**

Promotional Tools:
• Sales literature
• Direct Mail
• Personal Selling
• Advertising
• Trade Fairs and Exhibitions
• Distribution Channels (Categorization – Features - advantages and disadvantages)
• Logistics (Meaning – Categorization - advantages and disadvantages)
• Selection and management of Foreign Sales Agents

### **Unit 5 : Import and Export Policies and Practices in India**

**No. of Classes 8/ Marks 8**

• EXIM Policy - An Overview
• Trends in India's Foreign Trade
• Steps in Starting an Export Business

• Documentation and Procedure
• Legal Aspects
• Export Finance
• Export Risk Insurance
• Export Assistance and Incentives
• Export Oriented Unit
• Export Processing Zone

### Suggested Readings

- Bhattacharyya and Varsney, International Marketing Management, Sultan Chand
- Bhattacharyya, Export Marketing Strategies for Success, Global Press
- Keegan, Multinational Marketing Management, Prentice Hall
- Kriplani, International Marketing, Prentice Hall
- Taggart and Mott, The Essence of International Business, Prentice Hall
- Kotler, Principles of Marketing, Prentice Hall
- Caterora and Keavenay, Marketing : an International Perspective, Irwin, Homewood, Illinois
- Paliwala, The Essence of International Marketing, Prentice Hall
- Vasudeva, International Marketing, Excel Books
- Pateora, Graham and Salwan, International Marketing, McGraw Hill

## DSE 6.1 T Indirect Tax: Laws and Practices

Full Marks 100

Internal Assessment: 20 marks

Semester-end Examinations: 80 marks

Total 100 marks

Marks shown against the units indicate marks for Semester–end Examinations

Full Marks – 100

Unit 1 :	a) Basic Concepts	
	Concepts of Indirect Tax, Difference between Direct and Indirect Tax, Indirect tax structure in India, Proposed changes in indirect tax structure in India.	
	b) Central Excise	(L-25 / M-25)
Unit 2 :	WB VAT	(L 15 / M 15)
Unit 3 :	Customs	(L 20 / M 20)
Unit 4 :	Central Sales Tax	(L 10 / M 10)
Unit 5 :	Service Tax	(L 10 / M 10)

### Suggested Readings

- Datey V.S., Indirect Taxes Law And Practice, Taxmann
- Sanjeev Kumar, Systematic Approach to Indirect Taxes, Bharat
- Bangar and Bangar, Students' Gide to Indirect Taxes, Aadhya Prakashan.

*This Paper will be replaced by Goods & Service Tax Law whenever the law is enforced and accordingly revised syllabus will be announced.*

Latest edition of the books may be read.

**Paper DSE 6.2T**  
**TAX PROCEDURE AND PLANNING**  
**Full Marks 100**  
**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**Module I: TAX PROCEDURE**  
**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

- Unit 1 : Return of Income and Assessment**
- a) Different Returns & Forms for all types of assesseees
  - b) Assessments and Reassessments (basic concepts)
- (L 15 / M 15)
- Unit 2 :**
- a) Advance Tax (all types of assesseees)
  - b) Interest & Fees
  - c) Advance Ruling for Non-resident
- (L 10 / M 10)
- Unit 3 :**
- a) TDS
  - b) Refund of Excess Payment
- (L 5 / M 5)
- Unit 4 :**
- a) Penalties and Prosecutions
  - b) Appeals and Revisions
  - c) Income Tax Authorities
- (L 10 / M 10)

**Module II: TAX PLANNING**  
**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

- Unit 1 : Basic Concepts**
- a) Concept and difference between tax planning, tax avoidance, tax evasion and tax management.
  - b) Objectives, requisites, factors and types of tax planning
  - c) Tax on distributed Profit and on units of mutual fund.
- (L 5 / M 5)
- Unit 2 : Tax Planning-I**
- a) Tax Planning under different Heads of Income
  - b) Tax Planning on Deductions under Chapter VIA (L 10/M 10)
- Unit 3 : Tax Planning-II**
- a) Setting up a New Business : Location, nature and form of business.
  - b) Financial Management Decisions : Capital structure, dividend policy, deemed dividend and bonus shares.
  - c) Tax Planning related to sale of scientific research assets.

- d) Tax Planning related to Amalgamation, Demerger and conversion of company into LLP.
- e) Transfer of assets between Holding & Subsidiary company
- f) Tax planning with reference to receipt of insurance premium.
- g) Own fund versus borrowed fund for financing of assets.
- h) Sale in domestic market or export

(L15 / M 15)

- Unit 4 :**
- a) Tax planning in relation to Employees Compensation
  - b) Basic Concepts of transfer pricing, APA.
  - c) Relief for Double Taxation (covering more than one foreign country)
- (L10 / M 10)

### **Suggested Readings**

- Singhanian V.K., and Singhanian K, Direct Tax Law and Practice, Taxmann
- Lal and Vashist, Direct Taxes, Pearson
- Ahuja & Gupta Corporate Tax Planning Management, Bharat Law House.
- Singhanian V.K., and Singhanian M, Corporate Tax Planning and Business Tax Procedure, Taxmann.

**Latest edition of the books may be read.**

<b>DSE 6.1 e-B</b>	
<b>Internet &amp; WWW and Functional e-Business System (50+50)</b>	
<b>Full Marks 100</b>	
<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

## **Module I: INTERNET AND WORLD WIDE WEB**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Working of the internet with TCP/IP:** Origin of TCP/IP. TCP/IP communication architecture, Internet Architecture, Working of TCP/IP, TCP/IP Applications - FTP, Telnet, Simple Mail Transfer Protocol, Network File System.  
(L10 /M10)

**Unit 2. Internet Concepts:** WWW, Internet and E-Commerce, Linking to the Internet, Internet Address, Internet Tools- Information Retrieval tools (ftp, Gopher), Communication Tools (Email, FTP, Telnet, Usenet), Multimedia Information Tools (Home page), Information Search Tools (Archie, Veronica, WAIS). Domain Name System.  
(L12 /M12)

**Unit 3. Intranet and Extranet:** Intranet, Intranet vs. Groupware, Intranet Hardware, Intranet Software, Intranet Services ( Web (HTTP) Publishing, HTML.), Communication Systems (Email, Fax), Software used in Electronic mail, Electronic Meeting Systems ( Audio conferencing, Video Conferencing, Groupware), Extranet.  
(L6 /M6)

**Unit 4. Internet Security:** Security on the internet, Network and Website Security Risks, Site Hacking, Security Incidents on the internet security and email, network and website security, Firewall (Concept, Components and Constituents, Benefits), Enterprise wide security Framework,

secure physical infrastructure).

(L12 /M12)

## **Module II: FUNCTIONAL E-BUSINESS SYSTEM**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Applications of E-Business:** Direct Marketing and Selling, Value Chain Integration, Supply Chain Management, Corporate Purchasing, Financial and Information Services, Obstacles in adopting E-Business Applications. (L6 /M6)

**Unit 2. E-Strategy:** Information and Strategy, The virtual value chain planning E-Business project, E-Business strategy and knowledge management. (L 4 /M 4)

**Unit 3. Customer –effective Web design:** Requirements of Intelligent Websites, Website Goals and Objectives, planning the budget, analyzing website structure, fixed versus flexible webpage design, choosing a page size, website development tools, design alternatives, outsourcing web design, testing and maintaining websites. (L6 /M6)

**Unit 4. Electronic Payment Systems-**Overview of Electronic Payment Systems, Customer to Merchant Payments, Peer to Peer Payments. Electronic Banking, Electronic Fund Transfers. (L6 /M6)

**Unit 5. E-Business Marketing Concepts:** Basic marketing concepts for internet marketing, EBusiness marketing and branding strategies, Strengthening the customer relationship. (L4 /M4)

**Unit 6. E-Commerce and Online service industries:** Online financial services. Online travel services. Online career services. (L4 /M4)

**Unit 7. Mobile Commerce-** Wireless Spectrum, WAP - Origins of WAP, WAP Architecture. Wireless Datagram Protocol(WDP), Short Message Services, General Packet Radio Service(GPRS),Wireless Technology (CDMA, GSM), Different generations in Wireless Communication, Mobile commerce and its future in India. (L10 /M 10)

### **Suggested Readings:**

- S. Jaiswal, Doing Business on the Internet E-COMMERCE (Electronic Commerce for Business), Galgotia Publications.
- P.T.Joseph, E-Commerce An Indian Perspective, S.J., PHI.
- Kenneth C. Laudon, Carol Guerico Traver, 3.E-Commerce Business.Technology, Society, Pearson Education.
- Schneider, E-Commerce, Thomson Publication

## **DSE 6.2 e-B COMPUTER APPLICATION (Practical) & E-BUSINESS APPLICATION (Practical)**

<b>Full Marks 100</b>	
<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

<b>Module I COMPUTER APPLICATION (Practical)</b>	
<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>



**Unit 1: C++** [20 classes / 20 marks]  
**Unit 2: Use of Accounting software package – ACE, TALLY** [20 classes / 20 marks]

**Module II :E-BUSINESS APPLICATION (Practical)**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 1: HTML & DHTML** [20 classes / 20 marks]

**Unit 2: JAVA** [20 classes / 20 marks]

1. OOPS Concept and Introduction to JAVA. 2. An overview of Java. 3. Data Types - variables and arrays. 4. Operators, Control statements. 5. Classes and objects. 6. Inheritance. 7. String and string buffer. 8. Exception handling. 9. Applets.

**M:** Marks allotted to the Unit; **L:** No. of Lectures/ Classes for the Unit

# University of Calcutta



## **B.Com. Syllabus (General)** *under Semesterised CBCS*

**2017**

## University of Calcutta

### **B.Com. General Course Structure under Semesterised CBCS**

#### **Year I: Semester I**

		<b>Marks</b>	<b>Credit Hours</b>	
AECC 1.1Chg	<b>Language:</b> Communicative English - 50 Indian Language - 50	<b>100</b>	<b>2</b>	
GE 1.1 Chg	Microeconomics I & Statistics	<b>100</b>	<b>6</b>	
CC 1.1 Chg	Business Laws	<b>100</b>	<b>6</b>	
CC 1.2 Chg	Principles of Management	<b>100</b>	<b>6</b>	
CC 1.1 Cg	Financial Accounting - I	<b>100</b>	<b>6</b>	

**26**

#### **Year 1: Semester II**

		<b>Marks</b>	<b>Credit Hours</b>	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	<b>100</b>	<b>6</b>	
CC 2.1 Chg	Company Law	<b>100</b>	<b>6</b>	
CC 2.2 Chg	Marketing Management & Human Resource Management	<b>100</b>	<b>6</b>	
CC 2.1Cg	Cost and Management Accounting I	<b>100</b>	<b>6</b>	

**24**

### Year 2: Semester III

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	<b>100</b>	<b>4</b>	
GE 3.1 Chg	Business Mathematics & Statistics	<b>100</b>	<b>6</b>	
CC 3.1 Cg	Financial Accounting II	<b>100</b>	<b>6</b>	

**16**

### Year 2: Semester IV

		Marks	Credit Hours	
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	<b>100</b>	<b>6</b>	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	<b>100</b>	<b>6</b>	
CC 4.1 Cg	Taxation I	<b>100</b>	<b>6</b>	
CC 4.2 Cg	Cost and Management Accounting -II	<b>100</b>	<b>6</b>	

**24**

### Year 3: Semester V

		Marks	Credit Hours	
CC 5.1 Cg	Auditing & Assurance	<b>100</b>	<b>6</b>	
DSE 5.1 A*	Taxation II	<b>100</b>	<b>6</b>	
DSE 5.2 A*	Corporate Accounting	<b>100</b>	<b>6</b>	

**18**

#### Options:

\*Or DSE 5.1 M (Consumer Behaviour and Sales Management -50+50)  
& DSE 5.2 M (Product & Pricing Management and Marketing Communication (50+50)

\*Or DSE 5.1T (Public Finance and Taxation)  
& DSE 5.2 T (Direct Tax: Laws and Practice)

\*Or DSE 5.1 e-B (Fundamentals of Computer )  
& DSE 5.2 e-B DBMS and System Analysis &Design (50+50)

### Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	<b>100</b>	<b>2</b>	
SEC 6.1 Chg	Computerised Accounting and e-Filing of Tax Returns	<b>100</b>	<b>4</b>	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	<b>100</b>	<b>6</b>	
DSE 6.2 A**	Financial Management	<b>100</b>	<b>6</b>	

18

**Chg:** Common for Honours and General; **Cg:** Core Course for General Options:

**\*\*Or DSE 6.1 M (Retail Management and Marketing of Services (50+50) & DSE 6.2 M (Rural Marketing and International Marketing (50+50)**

**\*\*Or DSE 6.1 T (Indirect Tax: Laws and Practices) & DSE 6.2 T (Tax Procedures and Planning)**

**\*\*Or DSE 6.1 e-B (Internet & WWW and Functional e-Business System (50+50) & DSE 6.2 e-B(Computer Applications and e-Business Applications – Practical (50+50)**

### Summary for B.Com. General

		Marks	Credit Hours	
<b>Ability Enhancement Compulsory Course (AECC)</b>	Two Papers	<b>200</b>	<b>2 x 2 = 04</b>	
<b>Skill Enhancement Elective Course (SEC)</b>	Two Papers	<b>200</b>	<b>2x4 = 08</b>	
<b>Generic Elective (GE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
<b>CORE COURSE (CC)</b>	Eleven Papers	<b>1100</b>	<b>11 x 6 =66</b>	
<b>Discipline Specific Elective (DSE)</b>	Four Papers	<b>400</b>	<b>4 x 6 = 24</b>	
		<b>2300</b>	<b>Total 126</b>	

## Extracts from UGC CBCS Model for B.Com. Hons Syllabi (Page 2)

### Notes:

1. For Practical Lab based

a. Core Courses BCH 1.2 (Financial Accounting), BCH 3.2 (Income-tax Law and Practice), BCH 3.4 (Business Statistics), BCH 4.2 (Business Mathematics), and BCH 5.2 (Fundamentals of Financial Management) there shall be 4 Credit Hrs. for Lectures + one Credit hr. (Two Practical Periods per week per batch) for Practical Lab + one credit Hr for Tutorials (per group)

b. Core Courses BCH 4.3 (Computer Applications in Business) and Discipline Specific Elective BCH Group A (e) (Computerised Accounting System), there shall be 4 Credit Hrs. for Lectures + Two Credit hrs. (4 Practical Periods per week per batch) for Practical Lab

c. Skill Enhancement Elective Course BCH 3.5(E-Commerce), there shall be 3 Credit Hrs. for Lectures + One Credit hrs. (2 Practical Periods per week per batch) for Practical Lab

2. For other core and elective papers, there shall be 5 lectures and one Tutorial (per batch)

From above, It appears that:

- **one credit** represents **one lecture hour** for theoretical papers and there will be **one credit hour for tutorial** for each of theoretical papers / subjects.
- For practical lab based papers, **one credit represents two practical periods** and there will be no tutorial for practical papers/subjects.

**Therefore, it is suggested that:**

**AECC:** 2 credit hours means 2 lecture hours, i.e., 120 minutes lectures or 3 periods of 40 mins each per week.

**SEC** (involving lab): 4 credit hours may be divided into two credit hours for lectures (3 periods of 40 mins) and 2 credit hours for practical (4 practical periods per batch) per week

**GE, CC and DSE:** 6 credit hours means 5 credit hours for lectures (300 mins for lectures, i.e., 7-8 periods of 40 mins each) and 1 tutorial hour for each group/ batch of students per week.

## CONTENTS

GE 1.1 Chg

### Microeconomics I & Statistics (50+50)

Marks: 100

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
Total	<u>100 marks</u>

Marks shown against the units indicate marks for Semester-end Examinations

#### Module I

### Microeconomics I

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
Total	<u>50 marks</u>

#### Unit: I Demand and Consumer behaviour

Concept of demand, demand function, law of demand, derivation of individual and market demand curves, shifting of the demand curve; elasticity of demand.

Consumer behaviour: Marshallian utility approach and Indifference Curve approach; utility maximization conditions . Income-Consumption Curve (ICC) and Price-Consumption Curve (PCC): Derivation of demand curve from PCC.

[L-15/Marks:15]

#### Unit: II Production and Cost

Production function: Short-run and Long-run; Relation among Total Product, Average Product and Marginal Product, Law of returns to a variable factor, Law of Returns to Scale; Concepts of Iso-quant and iso-cost line; Conditions for optimization (graphical approach).

Cost: Accounting and Economic Costs; Social and Private Costs; Short-run and Long-run Costs; Relation between Average and Marginal Costs; Determination of LAC curve from SAC curves, LMC.

[L-10/Marks:10]

#### Unit: III Perfect Competition

Concept of Perfectly Competitive market: Assumptions, Profit maximization conditions;

Related concepts of Total Revenue, Average Revenue and Marginal Revenue, Short-run and Long-run equilibrium of a firm; determination of short-run supply curve of a firm, measuring producer surplus under perfect competition, Stability analysis– Walrasian and Marshallian, demand-supply analysis including impact of taxes and subsidy.

[L-15/Marks – 15]

#### Suggested Readings

- Pindyke and Rubinfeld, Micro Economics, Pearson
- Gould & Ferguson, Micro Economic Theory
- Banerjee & Majumdar, Business Economics and Business Environment, ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali)

- Dwivedi, D.N., Managerial Economics, Vikash Publications
- Mankiw.N.G., Principles of Microeconomics, Cengage
- Das, P. & Sengupta A., Economics , Oxford
- Samuelson & Nordhaus, Macroeconomics, McGraw Hill

## Module II

### Statistics (50 marks)

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

- 1. Fundamentals:** Definition of Statistics, Scope and limitation of Statistics, Attribute and variable, Primary and secondary data, Method of data collection, Tabulation of data, Graphs and charts, Frequency distribution, Diagrammatic presentation of frequency distribution.  
[ 8 L /8Marks]
- 2. Measures of Central Tendency:** Meaning of central tendency, Common measures – mean (A.M., G.M., H.M.) median and mode, Partition values- quartiles, deciles and percentiles, Applications of different measures.  
[ 8 L /8Marks]
- 3. Measures of Dispersion:** Meaning of dispersion, Common measure– range, quartile deviation, mean deviation and standard deviation; Relative measures of dispersion, Combined standard deviation, Applications of different measures.  
[ 8 L /8Marks]
- 4. Moments, Skewness and Kurtosis:** Different types of moments and their relationships, Meaning of skewness and kurtosis, Different measures of skewness, Measure of kurtosis, Applications of different measures.  
[ 8 L /8Marks]
- 5. Interpolation:** Finite differences, Polynomial function, Newton's forward and backward interpolation formula, Lagrange's interpolation formula.  
[ 8 L /8Marks]

#### Suggested Readings:

- Business Mathematics and Statistics- N G Das & J K Das (Tata McGraw Hill)
- Statistical Methods in Business and Social Science – G. V. Shenoy and M. Pant (Macmillan)
- Business Statistics – R. S. Bhardwaj (Excel Books)
- Statistics for Management – Levin, Rubin and Rastogi (Pearson Education)
- Statistics for Management, Srivastava and Rego, McGraw Hill
- Hazarika Padmalochan, A Text Book of Business Statistics, S.Chand
- Kellor & Arora, Business Statistics, Cengage
- Pillai and Bhagwati, Business Statistics, S.Chand
- Business Mathematics & Statistics – J. Chakraborti ( Dey Book Concern)
- Business Mathematics & Statistics – R K Ghosh & S Saha ( New Central Book Agency(P) Ltd
- Elementary Business Mathematics & Statistics – Dr. Priyotosh Khan ( Elegant Publication)
- Business Mathematics & Statistics – Dr. S N De (Chhaya Prakashani)
- Business Mathematics & Statistics – N K Nag & S K Nag ( Kalyani Publishers)
- Business Mathematics & Statistics – Dr. Ranjit Dhar (Dishari Prakashani)



## **CC 1.1 Chg**

### **Business Laws**

**Marks: 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **Unit 1: The Indian Contract Act, 1872**

**[No of classes 30 / Marks 30]**

- a) Contract – meaning, characteristics and kinds, Essentials of a valid contract
- b) Offer and acceptance (Definition, Rules, Communication and Revocation of offer and acceptance)
- c) Consideration (Definition, Elements, Types, Rules), “No Consideration No Contract” and its exceptions; Capacity to Parties (Definition and Types)
- d) Consent, Free consent, Coercion, Undue Influence, Fraud, Misrepresentation, Mistake
- e) Legality of objects and Consideration
- f) Void and Voidable agreements – Definition, Types and Distinction
- g) Discharge of a contract – Modes of discharge, Breach and Remedies against breach of contract
- h) Specific Contracts - Contingent contracts, Quasi, Contract of Indemnity, Guarantee, Bailment, Pledges

#### **Unit 2: The Sale of Goods Act, 1930**

**[No of classes 10 / Marks 10]**

- a) Contract of sale, meaning and difference between sale and agreement to sell
- b) Conditions and warranties
- c) Transfer of ownership in goods including sale by a non-owner
- d) Unpaid seller – meaning, rights of an unpaid seller against the goods and the buyer

#### **Unit 3: Partnership Laws**

**[No of classes 20 / Marks 20]**

##### **A) The Partnership Act, 1932**

- a. Definition – Partner, Partnership
- b) Nature and Characteristics of Partnership
- c) Types of Partners
- d) Registration of a Partnership Firms and consequences of non-registration
- e) Rights and Duties of Partners
- f) Dissolution of firms – meaning and grounds

##### **B) The Limited Liability Partnership Act, 2008**

- a) Definition
- b) Salient Features of LLP
- c) Advantages and disadvantages of LLP
- d) Differences between: LLP and Partnership, LLP and Company
- e) Incorporation of LLP

#### **Unit 4: The Negotiable Instruments Act 1881**

**[No of classes 10 / Marks 10]**

- a) Definition, Features, Types, Parties of Negotiable Instruments: Promissory Note, bill of exchange, Cheque (Definition and Types)
- b) Endorsement: Types of Endorsement
- c) Holder and Holder in Due Course, Privileges of Holder in Due Course.
- d) Dishonour of Negotiable Instruments: Modes, Consequences, Notice of Dishonour; Noting and Protesting
- e) Discharge of Negotiable Instruments: Meaning and Modes

## Unit 5: Consumers Protection Act, 1986

[No of classes 10 / Marks 10]

- a) Objectives and features of Consumers Protection Act
- b) Definitions – Complainant, Complaint, Consumer, Consumer Dispute, Defect, Deficiency, District Forum, Person
- c) Unfair trade practices
- d) Consumer Protection Council (Central, State and District – their constitutions and objectives)
- e) Consumer Dispute Redressal Agencies: Composition and jurisdiction of District forum, State Commission and National Commission

*(If any new provisions are enacted in place of the existing provisions, the syllabus will accordingly include such new provisions in place of existing provisions with effect from such date as prescribed by Calcutta University. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus)*

### Suggested Readings

- Kumar Ravindra, Legal Aspects of Business, Cengage
- Tulsian & Tulsian, Business Laws, S.Chand
- Kapoor N.D., Business Laws, Sultan Chand
- Das S.K. & Roy P., Business Regulatory Framework, OUP
- Gulsan S.S., Business Laws, Excel Books
- Roychowdhury, Bhattacharjee & Datta, Business Regulatory Framework, Elegant Publishers
- Bhadra, Satpati and Mitra, Ainer Ruprekha (Bengali Version), Dishari

## CC 1.2 Chg Principles of Management Marks: 100

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
Total	<u>100 marks</u>

Marks shown against the units indicate marks for Semester–end Examinations

### Unit-1: Introduction:

**No. of classes: 16 / Marks: 16**

Management-definition, importance, functions, nature-as profession, science and art, universality of management; levels of management; managerial tasks and skills.

Different Schools of Thoughts: Classical School-contributions of Taylor and Henri Fayol; Neo-classical school-Human Relations approach and Behavioral Science Approach; Modern School; System approach and Contingency approach.

**Unit-2: Planning:****No. of classes: 16 / Marks: 16**

Concept, importance, steps, types, premises, barriers to effective planning and remedial measures; strategic planning-concept forecasting –concept, techniques.

**Unit-3: Organizing:****No. of classes: 16 / Marks: 16**

Concept, importance, principles, different organization models-line and staff; Functional; Departmentation-need, basis, principles, Delegation of Authority-elements, steps barriers; Centralization and Decentralization of Authority; Span of Management; concept and determining factors.

**Unit-4: Directing and Staffing:****No. of classes: 16 / Marks: 16**

Directing: concepts, importance of directing,

Leadership: Concept, importance, types, leadership traits, Tannenbaum & Schmidt's Model and Blake & Mouton's Model.

Staffing: concepts, importance

**Unit- 5: Motivation, Co-ordination and Control:****No. of classes: 16 / Marks: 16**

Motivation: Concept, importance, importance of need theory, and contributions of McGregor, Maslow, Herzberg.

Coordination: concepts, importance, principles and implementation techniques.

Control: concepts, importance and tools of control.

**Suggested Readings**

- Kaul, Principle and Practice of Management, Vikash
- Koontz & Weirich, Essentials of Management, TMH
- Koontz, Weirich & Cannice, Management, McGraw Hill
- Stoner & Freeman, Management , PHI
- Drucker, P.F., Managing Challenges for the 21<sup>st</sup> Century, Butterworth, Oxford
- Mitra, J., & Somani, N., Principles of Management and Business Communications, Oxford

**CC 1.1 Cg**  
**FINANCIAL ACCOUNTING – I**  
**Marks: 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

## FINANCIAL ACCOUNTING – I

Unit	Topic	Details	Marks allotted	No. of Lectures
1	Introduction	<ul style="list-style-type: none"> <li>Nature of accounting; Users of accounting information; Qualitative characteristics of accounting information.</li> <li>Double entry book keeping system – Basic accounting equation, meaning of assets, liabilities, equity, revenue and expenses. Accounting Cycle - Recording of transaction: Journal, Ledger and preparation of Trial Balance.</li> <li>Bases of accounting; cash basis and accrual basis.</li> <li>Basic concepts and conventions: entity, money measurement, going concern, cost, realisation, accruals, periodicity, consistency, prudence (conservatism), materiality, matching and full disclosures.</li> </ul>	5	5
2	Concepts for determination of business income	<ul style="list-style-type: none"> <li>Revenue recognition: Meaning of revenue; objective; timing of recognition. Recognition of expenses.</li> <li>Inventories: meaning. Significance of inventory valuation. Lower of cost or market rule; Inventory ascertainment and reconciliation.</li> </ul>	15	15
		<ul style="list-style-type: none"> <li>The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation. Methods of computing depreciation: straight line method and diminishing balance method; Disposal of depreciable assets; change in estimate and method of charging depreciation. Accounting for depreciation: Asset-depreciation, Asset-provision.</li> <li>Reserves and provisions: Meaning; Objective; Types &amp; Accounting</li> </ul>		
		<ul style="list-style-type: none"> <li>Capital and revenue expenditures and receipts: general introduction only.</li> <li>Adjustment and rectification</li> </ul>		
3	Introduction to Accounting Standard	Financial accounting standards: concept, benefits, procedure for issuing accounting standards in India. Need for a global standard, IFRS (concept only).	10	10
	Introduction to Accounting Theory	Concept of accounting theory; relation with practice; GAAP; Capital – capital maintenance concepts; Limitations of Historic Cost accounting; Introduction to Fair Value accounting		
4	Final accounts of Trading Concern	Preparation of financial statements: of sole proprietorship business entities from a trial balance – Manufacturing, Trading, P/L A/c and Balance Sheet	15	15

5	Financial statements from Incomplete records and of NPO	Preparation of financial statements: a) from incomplete records b) of non-profit organisation	10	12
6	Accounting for special sales transaction	<ul style="list-style-type: none"> <li>Consignment: Basic features; difference with sales. Recording in the books of Consignor – at cost &amp; at invoice price, Valuation of unsold stock; Ordinary commission. Treatment and valuation of abnormal &amp; normal loss. Special commission; Del credere commission (with and without bad debt) - use of Consignment Debtors A/C. Recording in the books of Consignee</li> <li>Accounting for sale on approval</li> </ul>	25	23
	Sectional and Self balancing ledger	<ul style="list-style-type: none"> <li>Concept of sectional balancing, preparation of control accounts. Self balancing Ledger: advantages; Recording process; preparation of Adjustment accounts.</li> </ul>		
	Insurance claim for loss of stock and for loss of profit	<ul style="list-style-type: none"> <li>Loss of stock: Physical &amp; ownership concept; concept of under-insurance and average clause; computation of claim – with price change; consideration of unusual selling line; price reduction etc.</li> <li>Loss of profit: Concept – insured &amp; uninsured standing charges, GP rate, short sales and increased cost of working, average clause and computation of claim ( simple type )</li> </ul>		

***Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.***

**Suggested Reading:**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. I, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. I, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. I, Vikash Publishing House Pvt. Ltd.
- Sehgal & Sehgal, Advanced Accountancy Vol. I, Taxman Publication
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Hanif & Mukherjee, Financial Accounting, McGraw Hill
- Frank Wood, Business Accounting Vol 1, Pearson
- Tulsian, Financial Accounting, Pearson
- Mukherjee and Mukherjee, Financial Accounting I, Oxford
- Accounting Standards issued by ICAI

## Year 1: Semester II

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	100	6	
CC2.1 Chg	Company Law	100	6	
CC 2.2 Chg	Marketing Management and Human Resource Management	100	6	
CC 2.1Ch	Cost and Management Accounting - I	100	6	

**24**

### GE 2.1 Chg

### E-Commerce & Business Communication (50+50)

**Marks: 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b>Total</b>	<b><u>100 marks</u></b>

Marks shown against the units indicate marks for Semester–end Examinations

### Module I

### E-Commerce

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

#### **Unit 1: Introduction**

**[10 Marks, Class: 10]**

E-Commerce-meaning, nature, concepts, types; e-commerce business models B2B [concept, major activities, types of B to B market (independent, buyer oriented, supplier oriented, e-market place)], B2C [portals, e-tailer, content provider, transaction broker, real life examples of B2C], C2C, C2B, etc.; forces behind e-commerce, e-Governance [meaning, types, significance, real life examples].

#### **Unit 2: E-CRM and SCM**

**[8 Marks, Class: 8]**

E-CRM-definition, features, goals of E-CRM business framework, phases of E-CRM, types of E-CRM, Functional components of E-CRM, strategies for E-CRM solutions; SCM-definition, features, types of supply chain.

#### **Unit 3: Digital Payment**

**[8 Marks, Class: 8]**

Methods of e-payments [Debit Card, Credit Card, Smart Cards, e-Money], electronic or digital wallet, digital signature (procedures, working and legal provisions), payment gateways [Core Banking Solution or CBS, Mobile Payment, UPI, NCPI, International Payments], Online banking

[meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting], risks involved in e-payments.

#### **Unit 4: ERP**

**[8 Marks, Class: 8]**

Definition, features, major characteristics, levels of ERP, benefits of ERP, enterprise potential of ERP, modules of ERP, phases of ERP implementation, limitations of ERP.

#### **Unit 5: New Trends in E-Commerce**

**[6 Marks, Class: 6]**

Social Commerce-concept, definition, features; Digital Marketing-definition, objectives, methods, limitations; Advertisement in Social Media-objectives, advantages and disadvantages, procedures

#### **Suggested Readings**

- P. T. Joseph, *E-Commerce: An Indian Perspective*, PHI Learning
- Henry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, *E-Commerce: Fundamentals and Applications*, Wiley.
- Laudon, *E-Commerce*, Pearson Education India
- Schneider G., *E-Business*, Cengage
- Bhaskar, B., *E-Commerce*, McGraw Hill

### **Module II**

#### **Business Communication**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1: Introduction****[8 Marks, Class: 8]**

Definition, objectives, importance, elements, process, forms, models, principles of effective communication, barriers to communication and remedial measures, role of communication in conflict resolution

**Unit 2: Types of Communication****[6 Marks, Class: 6]**

Formal and informal communication, Grapevine, Characteristics of corporate communication, Characteristics of corporate communication, Communication network

**Unit 3: Tools of Communication****[6 Marks, Class: 6]**

Emergence of communication technology, Modern Forms of communication, Fax, E-mail, Video Conferencing

**Unit 4: Drafting****[20 Marks, Class: 20]**

Notice, Circular, Resolution & Minutes, Report, CV writing, Business letter writing- Offer letter, Quotation, Status enquiry, Confirmation, Execution, Refusal and cancellation of order, Recommendation, Credit collection, Claim, Bank loan

**Suggested Readings**

- Anjanee, S. & Bhavana Adhikari, *Business Communication*, TMH
- Chaturvedi & Chaturvedi, *Business Communication : Concepts, Cases and Applications*, Pearson
- M.K. Shegal & Vandana Khetarpal, *Business Communication*, Excel Books
- R.K. Madhukar, *Business Communication*, Vikash Publishing House Pvt. Ltd.
- Rao, Kumar & Bindu, *Business Communication*, Cengage
- Khanna, Puja., *Business Communication*, Vikash
- Raman & Sharma, *Technical Communication*, Oxford
- Lesikar, Flatley et al, *Business Communication*, McGraw Hill

**CC2.1 Chg  
Company Law****Marks: 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks**

**Marks shown against the units indicate marks for Semester-end Examinations**

**Unit 1: INTRODUCTION TO COMPANY [No of classes 16 / Marks 16]**

Meaning and Definition – Features –, High Lights of Companies Act 2013 - Body Corporate, Kinds of Companies (Concept, Definition and Features) – One Person Company, Private Company, Public Company, Company limited by Guarantee, Company limited by Shares, Holding Company, Subsidiary Company,



Government Company, Associate Company, Small Company, Foreign Company, Listed Company, Dormant company , Lifting of corporate veil.

## **Unit 2: FORMATION OF A COMPANY[No of classes 16 / Marks 16]**

Steps in formation of a Company, Promotion Stage, Meaning of Promoter, Position of Promoter & Functions of Promoter, Incorporation Stage – Meaning, Contents, Forms of Memorandum of Association & Articles of Association and its alteration, Distinction between Memorandum of Association and Articles of Association, Doctrines of constructive notice and Indoor management, Certificate of Incorporation, Subscription Stage – Meaning & contents of Prospectus, Types, Misstatement in prospectus and its consequences.

## **Unit 3: COMPANY ADMINISTRATION[No of classes 16 / Marks 16]**

Director ( Concept and Definition), DIN, Qualification, Disqualification, Appointment, Position, Rights, Duties, Power, Resignation, Liabilities, Removal and Resignation of director. Key Managerial Personnel ( Definition, Appointment and Qualifications) – Managing Director, Whole time Directors, the Companies Secretary, Chief Financial Officer, Resident Director, Independent Director, Women director.

## **Unit 4: SHARE CAPITAL & DEBENTURE[No of classes 16 / Marks 16]**

Share, Share Capital - Types and Definition, Allotment and Forfeiture, Calls on Shares, ESOP, Buyback, Sweat Equity, Bonus, Right, Capital Reduction, Share Certificate, D-mat System, Transfer and Transmission, Redemption of Preference Shares, Debenture – Definition, Types, Rules Regarding Issue of Debenture.

## **Unit 5: CORPORATE MEETINGS[No of classes 16 / Marks 16]**

Corporate Meetings - Shareholder and Board, Types of Meetings – Annual General Meeting Extraordinary General meeting, Minutes of Proceedings of General Meeting, Meeting of BOD and other meetings (Section 118), Requisite of Valid Meeting- Notice, Agenda, Chairman, Quorum, Proxy, Resolutions, Minutes, Postal Ballot, E- voting, Video Conferencing, Board Meetings and Resolutions

*(If any new provisions are enacted in place of the existing provisions, the syllabus will accordingly include such new provisions in place of existing provisions with effect from such date as prescribed by Calcutta University. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus)*

## **Suggested Readings**

- Kumar Rabindra, Legal Aspects of Business, Cengage
- Bhadra, Satpati and Mitra, Ainer Ruprekha (Bengali Version), Dishari
- Kapoor, N.D., Corporate Law, S.Chand
- Arora, Bansal, Corporate Law, Oxford
- Roychowdhury, Bhattacharjee & Datta, Business Regulatory Framework, Elegant Publishers

**CC 2.2 Chg**  
**Marketing Management and Human Resource Management**  
**Marks 100**

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
<b>Total</b>	<b><u>100 marks</u></b>

Marks shown against the units indicate marks for Semester–end Examinations

<b>Module I</b>	
<b>Marketing Management</b>	
Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<b>Total</b>	<b><u>50 marks</u></b>

**Unit 1: Introduction:**

**No. of classes: 8 / Marks: 8**

Nature, scope and importance of marketing; Selling vs Marketing; Marketing mix, Marketing environment: concept, importance, and components (Economic, Demographic, Technological, Natural, Socio-Cultural and Legal).

**Unit 2: Consumer Behaviour and Market segmentation:**

**No. of classes: 8 / Marks: 8**

Consumer Behaviour: Nature and Importance, Factors influencing consumer buying behaviour. Market segmentation: concept, importance and bases; Product differentiation vs. market segmentation.

**Unit 3: Product:**

**No. of classes: 8 / Marks: 8**

Concept and importance, Product classifications; Concept of product mix; Branding, packaging and labeling; Product life-cycle; New Product Development Process.

**Unit 4: Pricing, Distribution Channels and Physical Distribution**

**No. of classes: 8 / Marks: 8**

Pricing: Significance. Factors affecting price of a product. Pricing policies and strategies. Distribution Channels and Physical Distribution: Channels of distribution - meaning and importance; Types of distribution channels; Factors affecting choice of distribution channel.

**Unit 5: Promotion and Recent developments in marketing:**

**No. of classes: 8 / Marks: 8**

Promotion: Nature and importance of promotion; Communication process; Types of promotion: advertising, personal selling, public relations & sales promotion, and their distinctive characteristics. Recent developments in marketing: Social Marketing, online marketing, direct marketing, services marketing, green marketing, Rural marketing; Consumerism.

**Suggested Readings:**

- Kotler & Keller, Marketing Management, Pearson
- Ramaswamy and Namakumari, Marketing Management, McMillan
- Bhagwati, Pillai, Marketing Management, S.Chand
- Verma & Duggal, Marketing Management, Oxford
- Venugopal, P., Marketing Management, Sage
- Saxena, Marketing Management, McGraw Hill

**Module II****Human Resource Management**

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<u>Total</u>	<u>50 marks</u>

**Unit 1: Nature and Scope**

**No. of classes: 8 / Marks: 8**

Concept and meaning of HR, Understanding the Nature and Scope of HRM, Functions and importance.

**Unit 2: Human Resource Planning**

**No. of classes: 8 / Marks: 8**

Definition, Need and Features of Human Resource Planning, factors affecting Human Resource Planning.

**Unit 3: Recruitment and Selection**

**No. of classes: 8 / Marks: 8**

Definition of Recruitment, Source, need and importance of Recruitment, Recruitment Policy – process – sources of Recruitment Definition of Selection, Steps in selection.

**Unit 4: Training and Development**

**No. of classes: 8 / Marks: 8**

Training and Development Meaning and purpose of training, Benefits of training to organisation and employees -Training methods.

**Unit 5: Job Evaluation and Performance Appraisal**

**No. of classes: 8 / Marks: 8**

Job evaluation - objectives, scope, method, Job analysis, Job description, Job Specification - basic concept and significance,

Performance Appraisal - Concept

**Suggested Readings:**

- Mahajan, Reeta, Human Resource Management, Vikash
- Haldar & Sarkar, Human Resource Management, Oxford
- Sinha, Sekhar & Bala, Human Resource Management, Cengage
- Jyothi & Venkatesh, Human Resource Management, Oxford
- Wilton, N., An Introduction to Human Resource Management, Sage
- Dessler & Varkkey, Human Resource Management, Pearson

**CC 2.1Cg**  
**COST AND MANAGEMENT ACCOUNTING – I**

**Marks 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**COST AND MANAGEMENT ACCOUNTING-I**

Unit	Topic	Content	Marks	Lecture
<b>MODULE - I</b>				
1.	Introduction	<ul style="list-style-type: none"> <li>Definition of Costing, Objectives of Cost Accounting; Installing a Cost Accounting System, Essentials of a good Cost Accounting System.</li> <li><b>Cost concepts, terms and classification of costs:</b> Cost, Cost object, Cost units and Cost Centres, Types of costs, classification of costs- Direct-Indirect, Elementwise, Functionwise, Behaviourwise. <b>Costing Methods and Techniques</b> (introduction only).</li> </ul>	10	6
2	Material Costs	<ul style="list-style-type: none"> <li><i>Purchase of materials:</i> Organisation, purchase procedure, documentation.</li> <li><i>Storage of materials:</i> Need for storage, functions of a storekeeper, storage record, accounting for materials cost.</li> <li><i>Materials control:</i> Organisation; Tools: Just-in-Time Purchase; various stock levels, Economic Ordering Quantity; Periodic Inventory, Perpetual Inventory, Physical verification.</li> <li>Methods of Pricing Material Issues: FIFO, LIFO, Weighted Average.</li> </ul>	10	10
3	Employee Cost and Incentive Systems	<ul style="list-style-type: none"> <li>Introduction, Recording labour cost: Attendance and payroll procedures (Time-keeping, Time-Booking, Payroll procedure, Payment of wages-Piece rate, differential piece rate, time rate), Idle time (causes and treatment in Cost Accounting), Overtime (its effect and treatment in Cost Accounting).</li> <li>Main Principles for sound system of wage incentive schemes-(Halsey, Halsey-weir, Rowan); System of Wage Payment and Incentives.</li> </ul>	10	12
4	Overhead And Presentation of Cost	<p><b>Overhead</b></p> <ul style="list-style-type: none"> <li><i>Introduction:</i> Definition, Classification of Overhead-Functional and Behavioural.</li> <li><i>Manufacturing Overheads:</i> Allocation and apportionment of Overhead; Absorption of Overhead: various methods and their application; Treatment of under absorption/over absorption of overheads; Basic concepts of different Capacities.</li> </ul> <p>Preparation of Cost Sheet (single product only)</p>	20	20
	Cost Book-keeping	Non-Integrated System: Meaning & Features; Ledgers Maintained; Accounts prepared; General/Cost Ledger Adjustment Account; Meaning of Closing Balance in	10	8

		Various Accounts (Simple type) Reconciliation: Need for reconciliation; Items causing differences between Cost and Financial Profits and their reconciliation.		
	<b>Costing Methods</b>	<ul style="list-style-type: none"> <li>• <b>Job Costing and Batch Costing</b></li> <li>• <b>Contract Costing</b> - Progress payments, Retention money, Escalation clause, Contract accounts, Accounting for material, Accounting for plant used in a contract, Contract Profit.</li> <li>• <b>Service Costing</b> - Introduction; Motor Transport Costing only</li> <li>• <b>Process Costing:</b> Meaning, Features, Process vs Job Costing, Normal loss, Abnormal loss and gain and preparation of process accounts.</li> </ul>	<b>20</b>	<b>24</b>
		<b>Total</b>	<b>80</b>	<b>80</b>

### Suggested Readings

- Horngren, Datar & Rajan, Cost Accounting, - A Managerial Emphasis, Pearson
- B.Banerjee, Cost Accounting, PHI
- Jawahar Lal & Seema Srivastava, Cost Accounting, TMH
- M.Y.Khan & P.K.Jain, Management Accounting, TMH
- Atkinson, Management Accounting, Pearson
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann
- Mitra, J.K., Cost & Management Accounting, Oxford
- Hanif, M., Cost & Management Accounting, McGraw Hill
- Drury, Colin., Management and Cost Accounting, Cengage
- Satish Inamdar, Cost & Management Accounting, Everest Publishing House
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann

### Year 2: Semester III

		<b>Marks</b>	<b>Credit Hours</b>	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	<b>100</b>	<b>4</b>	
GE 3.3 Chg	Business Mathematics & Statistics	<b>100</b>	<b>6</b>	
CC3.1 Ch	Financial Accounting II	<b>100</b>	<b>6</b>	

**SEC 3.1 Chg**  
**Information Technology & Its Application in Business**  
**(Theory -50 + Practical- 50)**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Module I**  
**Information Technology and Its Application in Business (Theory)**

*(Marks: 50)*

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit1: Information Technology and Business**

**[8 Marks, Class: 8]**

Concepts of data, information and computer based information system, impact of information technology on business [business data processing, intra-organizational and inter-organizational communication by using network technology, business process outsourcing and knowledge process outsourcing], types of Information System- Transaction Processing System (TPS), Management Information System (MIS), Decision Support System (DSS), Knowledge Management System (KMS) and their implementation at managerial levels [operational, tactical and strategic].

**Unit 2: Data Organization and Data Base Management System [10 Marks, Class: 10]**

**(a) Data Organisation:** Character, field, record, file and database, types of data processing systems [Serial, Batch, Real-time, Online, Centralized, Distributed], File Organizations [Sequential, Direct, Indexed-Sequential, Relative], Traditional file organisation vs. Database file organisation.

**(b) Database Management System:** Concept of database management system (DBMS), definition, importance of DBMS, important terms of database [Entity, Attribute, Keys- Primary, Foreign and Candidate, Referential Integrity, Table, Views, Data Dictionary], types of database [Hierarchical, Network and Relational], basic ideas of Data Warehouse and Data Mining (definition, importance, advantages and disadvantages), Big data analysis- Concept.

**Unit 3: Internet and Its Applications**

**[8 Marks, Class: 8]**

Meaning of Internet, IPAddress [IPv4, IPv6], URL, Domain Name System, Internet Protocols - TCP/IP, UDP, FTP, TELNET[brief ideas only], HTML, DHTML AND XML [Concepts only], Ethical Hacking, Cloud Computing, Mobile Computing, Internet of Things, Ethical issues in Social Networking.

**Unit 4: Security and Encryption**

**[8 Marks, Class: 8]**

Need and concepts, dimension, definition and scope of e-security, security threats- Malicious Codes (Virus, Trojan Horse, Worm, Spyware, Ransomware), Hacking, Spoofing, Sniffing, Phishing, Spamming, Denial of Service (DoS) attacks, Technology solutions [Confidentiality: (Data Encryption & Decryption, Symmetric and asymmetric encryption), Security Implementation: Firewall, DMZ (De Militarized Zone), SSL, HTTPs, Significance of Website Auditing].

**Unit 5: IT Act. 2000 and Cyber Crimes****[6 Marks, Class: 6]**

IT Act 2000- Definitions of different terms, Digital signature, Electronic Governance, Attribution, Acknowledgement and Dispatch of Electronic Records, Regulation of Certifying Authorities, Digital Signatures Certificates, Duties of Subscribers, Penalties and Adjudication, Appellate Tribunal, Offences and Cyber-crimes.

**Module II****Information Technology and Its Application in Business (Practical)***(Marks: 50)***Internal Assessment: 10 marks****Semester-end Examinations: 40 marks****Total 50 marks****Unit 1: Word Processing****[5 Marks, Class: 5]**

Working with word document- Editing text, Find and Replace text, Formatting, Spell check, Autocorrect, Auto text; Bullets and numbering, Tabs, Paragraph Formatting, Indent, Page Formatting, Header and footer, Macros, Drop cap; Tables: Inserting, Filling and formatting a Table, Inserting Pictures and Video; Mail Merge- including linking with Database, Printing documents.

**Creating Business Documents using the above facilities****Unit 2: Preparing Presentations****[5 Marks, Class: 5]**

Basics of presentations: Slides, Fonts, Drawing, Editing; Inserting: Tables, Images, texts, Symbols, Media; Design; Transition; Animation, Hyperlink and Slideshow.

**Creating Business Presentations using above facilities.****Unit 3: Spreadsheet and its Business Applications****[16Marks, Class: 16]**

Managing worksheets- Formatting, Entering data, Editing, and Printing a worksheet; Handling operators in formula, Project involving multiple spreadsheets, Organizing Charts and graphs, Pivot Table.

**Spreadsheet Functions:** Mathematical [SUMIF, SQRT, SUBTOTAL, SUMPRODUCT etc.], Statistical [AVERAGE, STDEV, VAR, CORRELATION, REGRESSION etc.], Financial [PMT, RATE, PV, FV, NPER, IRR, NPV, Data Table Etc.] Logical [AND, OR, IF etc.], Date and Time, lookup and reference, Database and Text functions.

**Creating Spreadsheet in the area of:** Loan and Lease statement; Ratio Analysis; Payroll Statements; Capital Budgeting; Depreciation Accounting; Graphical Representation of Data; Frequency Distribution and its Statistical Parameters; Correlation and Regression

**Unit 4: Database Management System****[8 Marks, Class: 8]**

Creation of Tables, Multiple Table Handling-Defining Relationship [Foreign Key], Simple and Conditional Queries, Types of Queries [Update, Delete, Append], Forms, Reports, Introduction to SQL through Basic Commands.

Applying DBMS in the areas of Accounting, Inventory, HRM and its accounting, Managing the data records of Employees, Suppliers and Customers.

### Unit 5: Website Designing

[6 Marks, Class:6]

Introduction to HTML; Tags and Attributes: Text Formatting, Fonts, Hypertext Links, Tables, Images, Lists, Forms, Frames, Cascading Style Sheets.

### Suggested Readings

- Thareja, IT & Application, Oxford
- Aurora, Computer Fundamentals, Vikash
- Sinha & Sinha, Fundamentals of Computers, BPB Publications
- Dhar, P., Fundamental of IT and Its Application in Business, APH

## GE 3.3 Chg Business Mathematics & Statistics Marks 100

Module I	
Business Mathematics	
Internal Assessment:	10 marks
Semester-end Examinations:	40 marks
<u>Total</u>	<u>50 marks</u>

- 1 Permutations and Combinations:** Definition, Factorial Notation, Theorems on Permutation, Permutations with repetitions, Restricted Permutations; Theorems on Combination, Basic identities, Restricted Combinations.  
[ 8 L /8Marks]
- 2 Set Theory:** Definition of set, Presentation of sets, Different types of sets- Null set, Finite and infinite Sets, Universal set, Subset, Power set etc.; Set Operations, Law of algebra of Sets.  
[ 8 L /8Marks]
- 3 Binomial Theorem:** Statement of the theorem for positive integral index, General term, Middle term, Simple properties of binomial coefficients.  
[ 8 L /8Marks]
- 4 Logarithm:** Definition, Base and Index of Logarithm, General properties of Logarithm, Common Problems.  
[ 8 L /8Marks]
- 5 Compound Interest and Annuities:** Simple AP and GP Series, Different types of interest rates, Net present value, Types of annuities, Continuous compounding, Valuation of simple loans and debentures, Problems relating to Sinking Funds.  
[ 8 L /8Marks]



## Module II Statistics

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

- 6. Correlation and Association:** Bivariate data, Scatter diagram, Pearson's correlation coefficient, Spearman's rank correlation, Measures of association of attributes. [ 8 L /8Marks]
- 7. Regression Analysis:** Least squares method, Simple regression lines, properties of regression, Identification of regression lines.[ 8 L /8Marks]
- 8. Index Numbers:** Meaning and types of index numbers, Problems of constructing index numbers, Construction of price and quantity indices, Test of adequacy, errors in index numbers, Chain base index numbers; Base shifting, Splicing, Deflating, Consumer price index and its uses. [ 8 L /8Marks]
- 9. Time Series Analysis:** Causes of variation in time series data, Components of time series, additive and multiplicative models, Determination of trend by semi-average, moving average and least squares( of linear, quadratic and exponential trend) methods; Computation of seasonal Indices by simple average, ratio-to-moving average, ratio-to-trend and link relative methods; Simple forecasting through time series data. [ 8 L /8Marks]
- 10. Probability Theory:** Meaning of probability; Different definitions of probability; Conditional probability; Compound probability; Independent events, Simple problems. [ 8 L /8Marks]

### Suggested Readings

- Business Mathematics and Statistics- N G Das & J K Das (Tata McGraw Hill)
- Statistics for Business Decisions – J. K .Das (Academic Publishers)
- Basic Mathematics and its Application in Economics – S. Baruah (Macmillan )
- Mathematics for Economics and Business – R. S. Bhardwaj (Excel Books)
- Mathematics and Statistics for Management – K B Akhilesh and S Balasubrahmanyam (Vikash Publishing House Pvt.Ltd.)
- Business Statistics – G. C. Beri (Tata McGraw Hill)
- Fundamentals of Statistics – S.C.Gupta (Himalaya Publishing House )
- Statistics for Business and Economics – D. R. Anderson, D. J. Sweeney and T. A. Williams (Thomson Asia Pvt Ltd)
- Text Book of Business Mathematics , Padmalochan Hazarika, S.Chand
- Business Mathematics, Jameeruddin, Khanna & Bhamdri, Vikash
- Business Mathematics & Statistics – J. Chakraborti ( Dey Book Concern)
- Business Mathematics & Statistics – R K Ghosh & S Saha ( New Central Book Agency(P) Ltd
- Rajaretnam, Statistics for Social Sciences, Sage
- Elementary Business Mathematics & Statistics – Dr. Priyotosh Khan ( Elegant Publication)
- Business Mathematics & Statistics – Dr. S N De (Chhaya Prakashani)
- Business Mathematics & Statistics – N K Nag & S K Nag ( Kalyani Publishers)
- Business Mathematics & Statistics – Dr. Ranjit Dhar (Dishari Prakashani)

**CC3.1Cg**  
**FINANCIAL ACCOUNTING – II**  
**Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Details	Marks allotted	No. of lectures
1	Partnership accounts-I	Correction of appropriation items with retrospective effect.  Change in constitution of firm – change in P/S ratio, admission, retirement and retirement cum admission – treatment of Goodwill, revaluation of assets & liabilities (with/without alteration of books), treatment of reserve and adjustment relating to capital; treatment of Joint Life Policy, Death of a partner	15	15
2	Partnership accounts-II	Accounting for dissolution of firm – insolvency of one or more partner, consideration of private estate and private liabilities. Piecemeal distribution – surplus capital basis; maximum possible loss basis.	15	15
3	Branch accounting	Concept of Branch; different types of Branches.  Synthetic method – preparation of Branch account. Preparation of Branch Trading and P/L account. ( at cost & at IP ) – normal and abnormal losses.  Analytical method – preparation of Branch Stock, Adjustment etc A/C (at cost & at IP ) – normal & abnormal losses  Independent branch – concept of wholesale profit	10	10
4	Hire purchase and Instalment payment system	Meaning; difference with Installment payment system; Recording of transaction in the books of buyer – allocation of interest – use of Interest Suspense a/c – partial and complete repossession  Books of Seller – Stock and Debtors A/C ( with repossession)  Books of Seller – H.P. Trading A/C without HP Sales and HP Debtors and General Trading A/c ( with repossession)	10	10

		Concept of operating and financial lease – basic concept only.		
5	Departmental accounts	Concept, objective of preparation of departmental accounts; apportionment of common cost; Preparation of Departmental Trading and P/L account, Consolidated Trading and P/L account; inter departmental transfer of goods at cost, cost plus and at selling price and elimination of unrealized profit.	10	10
6	Investment Accounts	Maintenance of Investment Ledger; Preparation of Investment Account (transaction with brokerage, STT, cum & ex-interest), Valuation of Investment under FIFO and Average method; Investment Account for Shares (with Right Shares, Bonus Shares and Sale of Right). Relevant Accounting Standard.	10	10
7	Business Acquisition and Conversion of partnership into limited company	<ul style="list-style-type: none"> <li>Profit/ loss prior to incorporation; Accounting for Acquisition of business.</li> <li>Conversion of Partnership into Limited Company – with and without same set of books</li> </ul>	10	10
			80	80

***Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.***

#### **Suggested Reading**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. I & II, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. I & II, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. I & II, Vikash Publishing House Pvt. Ltd.
- Sehgal & Sehgal, Advanced Accountancy Vol. I & II, Taxman Publication
- L.S.Porwal, Accounting Theory, Tata McGraw Hill
- Gokul Sinha, Accounting Theory & Management Accounting,
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Frank Wood, Business Accounting Vol 1&II, Pearson
- Tulsian, Financial Accounting, Pearson
- Hanif & Mukherjee, Financial Accounting, Vol II, McGraw Hill
- Accounting Standards issued by ICAI

## GE 4.1 Chg

### Microeconomics-II & Indian Economy (50+50)

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
<u>Total</u>	<u>100 marks</u>

Marks shown against the units indicate marks for Semester–end Examinations

#### Module I

### Microeconomics-II

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<u>Total</u>	<u>50 marks</u>

#### Unit: I Monopoly

Concept of Monopoly: Sources of monopoly power; Short-run and Long-run equilibrium of a monopoly firm; Price discrimination; Social Cost of Monopoly (concept only). [L 10/ Marks:10]

#### Unit: II Imperfect Competition

Concept of Imperfectly Competitive market; Monopolistic Competition: Features and examples; Oligopoly: Non-Collusive Oligopoly: Sweezy's Kinked demand Curve Model, Collusive Oligopoly: Cartel (concept with example) [L 15/ Marks:15]

#### Unit: III Factor Price Determination

Introduction; Marginal Productivity Theory of Distribution; Marginal Productivity Theory of Wage, Demand Curve of Labour, Supply Curve of Labour; Wage Determination in an Imperfectly Competitive Labour Market: Case of Collective Bargaining, Factors determining the power of trade unions to raise wages; Theory of Rent: Ricardian Theory of Rent, Modern Theory of Rent, Quasi-rent; Theory of Profit: Gross Profit and Net Profit, Accounting Profit and Normal Profit, Different Theories of Determination of Profit; Concept of Interest: Gross Interest and Net Interest, Classic Theory of Interest Rate Determination. [L 15/ Marks 15]

#### Suggested Readings

- Pindyke and Rubinfeld, Micro Economics, Pearson
- Gold & Ferguson, Micro Economic Theory
- Banerjee & Majumdar, Business Economics and Business Environment, ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali),ABS
- Ratan Khasnabish & Ranesh Roy, Banijjik Arthaniti –o- Bharoter arthanaitik Paribesh(Bengali)
  - Divedi, D.N., Managerial Economics, Vikash Publications
  - Mankiw.N.G., Principles of Microeconomics, Cengage
  - Das, P. & Sengupta A., Economics , Oxford
  - Samuelson & Nordhaus, Macroeconomics, McGraw Hill

## **Module II**

### **Indian Economy**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b>Total</b>	<b><u>50 marks</u></b>

#### **Unit:I Basic Issues in Economic Development**

Concepts and measures of development and underdevelopment; Concept of national income:

GDP,GNP,NDP,NNP,NI (concepts only).

**[L 5/ Marks:5]**

#### **Unit:II Basic Features of Indian Economy**

Sectoral distribution of National Income and Occupational Structure; Structural Change in Indian Economy, issue of Service-led Growth.

**[L 10/ Marks:10]**

#### **Unit:III Sectoral Trends and Issues**

(a) **Agricultural Sector:** Problem of low productivity; Green Revolution and its impact; Land Reforms; Problems of rural credit and marketing.

(b) **Industry and Service Sector:** An overview of industrial growth during pre-reform and post-reform period; Role of Public Sector: its performance and the issue of disinvestment; Role of MSME sector, problems faced by the MSME Sector; Role of the Service Sector: growth of banking and insurance sector during the post-reform period.

(c) **External Sector:** Problem of unfavourable balance of payments and policy measures.

**[L 15/ Marks:15]**

#### **Unit:IV Social Issues in Indian Economy**

Problem of Poverty, Poverty alleviation measures; Problem of Unemployment and the policy measures.

**[L 10/ Marks:10]**

#### **Suggested Readings**

- Dutt & Sundaram, Indian Economy, S.Chand
- Mishra &Puri, Indian Economy, Himalaya Publishing House
- Uma Kapila, Indian Economy
- Joydeb Sarkhel & Swapan Kr. Roy, Bharoter arthanaiti(Bengali)
- Banerjee & Majumdar, Business Economics and Business Environment,ABS
- Banerjee & Majumdar, Banijjik Arthaniti –o- Banijjik Paribesh(Bengali),ABS
- Ratan Khasnabish & Ranesh Roy, Banijjik Arthaniti –o- Bharoter arthanaitik Paribesh(Bengali)
  - Prakash, B.A., Indian Economy, Pearson
  - Fernando, Indian Economy, Pearson

**CC 4.1 Chg**  
**Entrepreneurship Development and Business Ethics**

Internal Assessment:	20 marks
Semester-end Examinations:	<u>80 marks</u>
<u>Total</u>	<u>100 marks</u>

Marks shown against the units indicate marks for Semester–end Examinations

**Module I**  
**Entrepreneurship Development**

Internal Assessment:	10 marks
Semester-end Examinations:	<u>40 marks</u>
<u>Total</u>	<u>50 marks</u>

**Unit-1: Introduction:**

**No. of classes: 10 / Marks: 10**

Meaning, elements, determinants and importance of entrepreneurship and creative behavior; Entrepreneurship and Micro, Small and Medium Enterprises, Role of family business in India; The contemporary role models in Indian business: their values, business philosophy and behavioural orientations; Conflict in family business and its resolution.

**Unit-2:**

**No. of classes: 10 / Marks: 10**

Public and private system of stimulation, support and sustainability of entrepreneurship. Requirement, availability and access to finance, marketing assistance, technology, and industrial accommodation, Role of industries/entrepreneur's associations and self-help groups, The concept, role and functions of business incubators, angel investors, venture capital and private equity fund.

**Unit-3:**

**No. of classes: 10 / Marks: 10**

Sources of business ideas and tests of feasibility. Significance of writing the business plan/ project proposal; Contents of business plan/ project proposal; Designing business processes, location, layout, operation, planning & control; preparation of project report

**Unit-4:**

**No. of classes: 10 / Marks: 10**

Mobilizing Resources (10 Lectures) Mobilizing resources for start-up. Accommodation and utilities; Preliminary contracts with the vendors, suppliers, bankers, principal customers; Basic start-up problems;

## **Module II Business Ethics**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

### **Unit 1: Business Ethics**

**No. of classes: 8 / Marks: 8**

Introduction – Meaning - Scope – Types of Ethics – features – Factors influencing Business Ethics – significance of Business Ethics - Arguments for and against business ethics- Basics of business ethics - Corporate Social Responsibility and Business Ethics

### **Unit 2: Principles of Business Ethics**

**No. of classes: 8 / Marks: 8**

Introduction – Meaning – Element – Ethics, Morale, Business ethics, Ethical dilemma [basic idea, features and significance of each of element]

### **Unit 3: Ethics in Management**

**No. of classes: 8 / Marks: 8**

Introduction – Ethics in HRM – Ethics in Marketing — Ethics in Accounting and finance - Work place Ethics - Value and Ethics.

### **Unit 4: Corporate Culture**

**No. of classes: 8 / Marks: 8**

Meaning – Role – Functions – Impact of Corporate Culture – Globalization and cross culture issues in ethics, Corporate Code of ethics

### **Unit 4: Ethics & Corporate Governance**

**No. of classes: 8 / Marks: 8**

Concept of Corporate Governance, Scope, Reports on Corporate Governance and its benefits and limitations-- Corporate Governance and Business Ethics [Brief Concept]

### **Suggested Readings:**

- Kuratko and Rao, *Entrepreneurship: A South Asian Perspective*, Cengage Learning.
- Robert Hisrich, Michael Peters, Dean Shepherd, *Entrepreneurship*, McGraw-Hill Education
- Desai, Vasant. *Dynamics of Entrepreneurial Development and Management*. Mumbai, Himalaya Publishing House.
- Dollinger, Mare J. *Entrepreneurship: Strategies and Resources*. Illinois, Irwin.
- Holt, David H. *Entrepreneurship: New Venture Creation*. Prentice-Hall of India, New Delhi.
- Plsek, Paul E. *Creativity, Innovation and Quality*. (Eastern Economic Edition), New Delhi: Prentice-Hall of India. ISBN-81-203-1690-8.
- Singh, Nagendra P. *Emerging Trends in Entrepreneurship Development*. New Delhi:

ASEED.

- SS Khanka, *Entrepreneurial Development*, S. Chand & Co, Delhi.
- Hifrich, Manimala, Peters & Shepherd, *Entrepreneurship*, McGraw-Hill
- Kumar Arya, *Entrepreneurship*, Pearson
- Bamford and Bruton, *Entrepreneurship*, McGraw Hill
- SIDBI Reports on Small Scale Industries Sector.
- Roy, *Entrepreneurship*, Oxford
- Albuquerque, *Business Ethics*, Oxford
- Ferrell, Fraedrich, Farrell, *Business Ethics*, Cengage

**Note: Latest edition of text books may be used.**

## **CC 4.1 Cg**

### **TAXATION-I**

**Full Marks – 100**

<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

- Unit 1 :**
- a) **Basic Concepts and Definitions under IT Act**  
Assessee, Previous year, Assessment year, Person, Income, Sources of income, Heads of income, Gross total income, Total income, Maximum marginal rate of tax, Tax Evasion, Tax avoidance, Tax planning.
  - b) **Residential Status and Incidence of Tax**  
Residential status of all persons except company
  - c) **Incomes which do not form part of Total Income**  
Except section 10AA.
  - d) **Agricultural Income**  
Definition, determination of agricultural and non-agricultural Income.  
**(L-10 / M-10)**
- Unit 2 :** **Heads of Income and Provisions governing Heads of Income**
- a) *Salaries*
  - b) *Income from House property* **(L-30 / M-30)**
- Unit 3 :** **Heads of Income and Provisions governing Heads of Income**
- a) *Profits and Gains of Business or Profession*  
Special emphasis on sec. 32, 32AC, 32AD, 35, 35D, 36(1)(2), (iii), (vii), 37, 37(2B), 40A(2), 40A(3), 43B, (Excluding presumptive taxation)
  - b) *Capital Gains*  
Meaning and types of capital assets, basic concept of transfer, cost of acquisition, cost of improvement and indexation, computation of STCG and LTCG, exemptions u/s 54, 54EC and 54F, capital gain on transfer of bonus shares, right entitlement and right shares, taxability of STCG and LTCG.
  - c) *Income from Other Sources*



- Unit 4 :**
- a) Basis of charge excluding deemed dividend (L-25 / M-25)  
**Income of other Persons included in Assessee's Total Income**  
 Remuneration of spouse, income from assets transferred to spouse and Son's wife, income of minor.
- b) **Set off and Carry Forward of Losses**  
 Mode of set off and carry forward, inter source and inter head set off, carry forward and set off of losses u/s 71B, 72, 73, 74, 74A.
- c) **Deductions from Gross Total Income**  
 Basic concepts, deductions u/s 80C, 80CCC, 80CCD, 80CCE, 80D, 80DD, 80DDB, 80E, 80G, 80GG, 80GGC, 80TTA, 80U
- d) **Rebate u/s 87A** (L-15 / M-15)

*If any new legislations/provisions are enacted in place of the existing legislations/provisions, the syllabus will accordingly include such new legislations/provisions in place of existing legislations/provisions with effect from such date as prescribed by CALCUTTA UNIVERSITY. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus.*

#### **Suggested Readings**

- Singhnia V.K., and Singhania K, Direct Tax Law and Practice, Taxmann
- Lal and Vashist, Direct Taxes, Pearson
- Ahuja and Gupta, Direct Taxes Law And Practice, Bharat
- Manoharan & Hari, Direct Tax Laws, Snow White
- Roy, S. K., Principles and Practice of Direct & Indirect Taxes, ABS
- Sengupta, C.H., Direct & Indirect Taxes, Dey Book Concern

**Latest edition of the books may be read.**

### **CC 4.2 Cg Cost and Management Accounting -II**

**Full Marks – 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Content	Marks	Lecture
1	<b>Joint Product and By products</b>	Concept of Joint products and by-products; Apportionment of common costs to joint products, and costing of By Products.	20	18
	<b>ABC</b>	Problems of traditional costing; meaning of Activity Based Costing; cost analysis under ABC; advantages and disadvantages.		
2	<b>Budget and Budgetary Control</b>	Budget and Budgetary Control; principal budget factor, preparation and monitoring procedures, Fixed and Flexible budget, preparation of cash budget, flexible budget.	10	12

3	<b>Standard Costing</b>	Standard Costs and Standard Costing; Uses, & Importance. Differences with Budgetary Control, Preliminary Steps. Classification of Standards. Analysis and computation of Materials, Labour and Overhead Cost (concepts only) variance.	20	20
4	<b>CVP Analysis, Marginal Costing</b>	<b>CVP Analysis</b> Introduction; CVP Assumptions and Uses; Break-Even Analysis: BE Point and Margin of Safety; Graphical presentation of CVP Relationship; Profit Graph <b>Marginal Costing and Management Decisions</b> – Marginal Costing vis-à-vis Absorption Costing; Cost statement under marginal costing and absorption costing; Marginal Costing Techniques. <b>Problems relating above areas</b>	20	15
5	<b>Short term Decision</b>	Marginal costing Techniques; Marginal Cost and product Pricing; Product Mix and Make or Buy Decisions (simple Type).	10	15
			80	80

### Suggested Readings

- Horngren, Foster & Rajan, Cost Accounting, - A Managerial Emphasis, Pearson
- B.Banerjee, Cost Accounting, PHI
- Jawahar Lal & Seema Srivastava, Cost Accounting, TMH
- M.Y.Khan & P.K.Jain, Management Accounting, TMH
- Atkinson, Management Accounting, Pearson
- Bhattacharyya, Ashish K., Cost Accounting for Business Managers, Elsevier
- Ravi M Kishore, Cost and management Accounting, Taxmann
- Hanif, M., Cost and Management Accounting, TMH
- Mitra, J.K., Cost and Management Accounting, Oxford
- Drury, C., Management and Cost Accounting, Cengage

### Year 3: Semester V

		Marks	Credit Hours	
CC 5.1 Cg	Auditing & Assurance	100	6	
DSE 5.1 A*	Taxation II	100	6	
DSE 5.2 A*	Corporate Accounting	100	6	

**CC 5.1Cg**  
**Auditing & Assurance**  
**Full Marks – 100**  
**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**UNIT – I CONCEPT, NEED AND PURPOSE OF AUDIT (10M 10L)**

- Definition-Nature-Scope and Objectives of Independent Financial Audit
- Basic Principles Governing an Audit- Concept of Auditor's Independence
- Errors and Fraud-Concepts, Means of Doing Fraud, Auditor's Responsibility towards Detection and Prevention of Fraud.
- Classification of Audit- Organization Structure wise (Statutory, Non-statutory); Objective wise (Internal and Independent Financial Audit); Periodicity wise (Periodical, Continuous, Interim, Final)
- Standards on Auditing (SA)- Concept and Purpose

*(This unit should be studied with SA 200 and SA 240)*

**UNIT – II AUDIT PROCEDURES AND TECHNIQUES (15M 15L)**

- Auditing Engagement-Audit Planning- Audit Programme (Definitions)
- Documentation: Audit Working Paper, Ownership and Custody of Working Papers-Audit File (Permanent and Current) – Audit Note Book- Audit Memorandum.
- Audit Evidence – Concept, Procedures to Obtain Audit Evidence
- Routine Checking, Test Checking and Auditing in Depth
- Audit of Educational Institutions and Hospitals

*(This unit should be studied with SA 210, SA 230, SA 300, SA 500, SA 520 and SA 530)*

**UNIT – III INTERNAL CONTROL SYSTEM (10M 10L)**

- Internal Control- Definition, Objectives
- Internal check-Definition, Objectives
- Internal Audit- Definition, Objectives, Reliance by Statutory Auditor on Internal Auditor's Work

*(This unit should be studied with SA 610)*

**UNIT – IV VOUCHING, VERIFICATION AND VALUATION (10M 10L)**

- **Vouching** - Meaning, Objectives – Factors to be Considered during Vouching - Vouching of Following Items: i) **Receipts:** Cash Sale, Collection from Debtors, Interest and Dividend from Investment, Sale of Fixed Assets. ii) **Payments:** Cash Purchase, Payment to Creditors, Payment of Wages and Salaries, Advertisement Expenses, Travelling Expenses
- **Verification and Valuation** – Concept, Objectives, Importance, Difference with Vouching, Difference between Verification and Valuation, Verification of Following Items: i) **Non-Current Assets:** Goodwill, Patent and Copy Right, Plant and Machinery, ii) **Investments** iii) **Current Assets:** Inventory, Loan and Advance, Cash and Bank Balances iv) **Non-current Liability:** Secured Loan v) **Current Liability:** Trade Payables (Sundry Creditors).

## **UNIT - V COMPANY AUDIT**

**(15M 15L)**

- Qualification, Disqualification, Appointment and Rotation, Removal and Resignation,
- Branch Audit and Joint Audit
- Depreciation – Concept and Provisions of the Companies Act
- Divisible Profit and Dividend (Final, Interim and Unclaimed/Unpaid): Provisions of the Act, Legal Decisions and Auditor's Responsibility.

## **UNIT - VI AUDIT REPORT AND CERTIFICATE**

**(10M 10L)**

- Definition – Distinction between Report and Certificate- Different types of Report
- Contents of Audit Report (As per Companies Act and Standards on Auditing)
- True and Fair View – Concept
- Materiality – Concept

*(This unit should be studied with SA 700)*

## **UNIT – VII OTHER THRUST AREAS**

**(10M 10L)**

- Cost Audit – Concepts, Objectives Relevant Provisions of Companies Act
- Management Audit - Concepts, Objectives, Advantages
- Tax Audit - Social Audit – Propriety Audit – Performance Audit – Environment Audit (Concepts only)

## **Notes and Appendices**

### **Notes:**

- 1) The provisions of the Companies Act, 1956 which are still in force would form part of the syllabus till the time their corresponding or new provisions of the Companies Act, 2013 are enforced.
- 2) If new Laws or Rules are enacted in place of the existing laws and rules, the syllabus would include the corresponding provisions of such new laws and rules with immediately following Academic Year.
- 3) Students are expected to develop analytical mind for answering problem based questions along with the theoretical questions.

### **Suggested Readings:**

- Gupta & Arora, Fundamentals of Auditing, TMH
- Tandon et al, Practical Auditing, S.Chand
- Jha, A., Auditing, Taxmann
- Basu, S. K., Auditing and Assurance, Pearson
- Ghosh, J., Contemporary Auditing and Assurance, Elegant Publishing
- Standards on Audit (SA) issued by the Institute of Chartered Accountants of India

**DSE 5.1A  
TAXATION-II**

**Full Marks – 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**Module I  
Direct Tax**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 1 : Computation of Total Income and Tax Payable**

- a) Rate of tax applicable to different assesses (except corporate assessee)
- b) Computation of tax liability of an individual, Firm (excluding application of AMT) **(L-15 / M-15)**

**Unit 2 : TAX MANAGEMENT**

**a) Provision for Filing of Return**

Date of filing of return, relevant forms of return, different types of returns, return by whom to be signed, PAN, TAN

**b) Assessment of Return**

Self assessment u/s 140A, Summary assessment u/s 143(1), Scrutiny assessment u/s 143(3) and Best judgement assessment u/s 144.

**c) Advance Tax**

Who is liable to pay, due dates and computation of advance tax (excluding corporate assesseees)

**d) Interest & Fees**

Section 234A, 234B, 234C, 234F (simple problems on interest and fees)

**e) TDS**

Provisions regarding TDS from salary, interest on securities, horse racing, lottery. **(L-25 / M-25)**

**Module II  
INDIRECT TAXES**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 3 : Central Sales Tax**

Definitions, incidence and levy of tax, exemptions and exclusions, forms under CST, determination of turnover and tax payable, registration of dealers.

**(L-10 / M-10)**

**Unit 4 : West Bengal Value Added Tax**

Concepts and general principles, features, advantages and disadvantages, definitions, incidence and levy of tax, Rates of VAT, Calculation of VAT

liability, Input tax credit (including on Capital goods), small dealers and composition scheme, registration of dealers, cancellation of registration certificate.

**(L-10 / M-10)**

**Unit 5 : Central Excise**

Basic concepts, conditions and taxable event for levy of excise duty, Goods and excisable goods, Manufacture and deemed manufacture, Definitions of factory, broker or commission agent, wholesale dealer, sale or purchase, valuation – MRP, transaction value.

**(L-10 / M-10)**

**Unit 6 : Customs**

Basic concepts, Taxable event, Territorial water, Indian customs water, Goods, Types of Customs duties – Basic, Additional, Protective, Safeguard, Counter-veiling duty on subsidised goods, Anti Dumping, Valuation of Custom Duty.

**(L-10 / M-10)**

*The indirect tax portion of this paper will be replaced by the Goods & Service Tax Law whenever the law is enforced and accordingly revised syllabus will be announced.*

*If any new legislations/provisions are enacted in place of the existing legislations/provisions, the syllabus will accordingly include such new legislations/provisions in place of existing legislations/provisions with effect from such date as prescribed by CALCUTTA UNIVERSITY. Similarly if any existing provision becomes redundant due to changes, it will be left out of the syllabus.*

**Suggested Readings**

- Datey V.S., Indirect Taxes Law And Practice, Taxmann
- Sanjeev Kumar, Systematic Approach to Indirect Taxes, Bharat
- Bangar and Bangar, Students' Guide to Indirect Taxes, Aadhya Prakashan.
- Sengupta, C.H., Direct & Indirect Taxes, Dey Book Concern
- Roy, S. K., Principles and Practice of Direct & Indirect Taxes, ABS

**Latest edition of the books may be read.**

**DSE 5.2 A****CORPORATE ACCOUNTING****Full Marks – 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks****Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Details	Marks allotted	No. of lectures
1	Company – Introduction  And  Accounting for Shares & debentures	<ul style="list-style-type: none"> <li>• Meaning of Company; Maintenance of Books of Accounts; Statutory Books; Annual Return</li> <li>• Issue of Shares – issue, forfeiture, reissue, issue other than in cash consideration and issue to the promoters; Pro-rata issue of shares. Issue of debentures. Sweat equity.</li> <li>• Right and Bonus Share – Rules, Accounting</li> <li>• Underwriting of shares and debentures: Rules; Determination of Underwriters Liability – with marked, unmarked &amp; firm underwriting; Accounting.</li> <li>• Employee Stock Option Plan – meaning; rules; Vesting Period; Exercise Period. Accounting for ESOP. Meaning and Accounting of ESPS.</li> </ul>	20	20
2	Buy back and Redemption of preference shares	<ul style="list-style-type: none"> <li>• Buy Back of Securities – meaning, rules and Accounting.</li> <li>• Redemption of Preference Shares – Rules and Accounting (with and without Bonus Shares)</li> </ul>	10	10
3	Company Final Accounts	<p>Introduction to Schedule III; Treatment of Tax; transfer to reserve, Dividend and applicable tax (out of current profit, out of past reserve); Preparation of Statement of Profit &amp; Loss and Balance Sheet.</p> <p>(tax on net profit without recognizing deferred tax)</p>	15	15
4	Redemption of debenture	Redemption of Debenture – Important Provisions, Accounting for Redemption: by conversion, by lot, by purchase in the open market (cum and ex-interest), held as Investment and Use of Sinking Fund	10	10
5	Valuation	<p>Goodwill – valuation using different methods,i.e., Average Profit, Super Profit, Capitalisation and Annuity.</p> <p>Shares – Valuation using different methods: Asset approach, Earnings approach, Dividend Yield, Earnings-Price, Cum-div and Ex-div, Majority and Minority view and</p>	10	10

		Fair Value		
6	Company Merger And Reconstruction	<ul style="list-style-type: none"> <li>Amalgamation, Absorption and Reconstruction– Meaning; relevant standard and meaning of different terms, Accounting in the books of Transferor Company. Accounting in the books of Transferee (based on relevant accounting standard); inter-company transactions (excluding inter-company share holding).</li> <li>Internal reconstruction – meaning, provisions and Accounting, Surrender of Shares for redistribution; preparation of Balance Sheet after reconstruction</li> </ul>	15	15
		Total	80	80

***Relevant Accounting Standards issued by the Institute of Chartered Accountants of India are to be followed.***

#### **Suggested Reading**

- Sukla, Grewal, Gupta: Advanced Accountancy Vol. II, S Chand
- R. L.Gupta & Radheswamy, Advanced Accountancy Vol. II, S. Chand
- Maheshwari & Maheshwari, Advanced Accountancy Vol. II, Vikash Publishing
- Sehgal & Sehgal, Advanced Accountancy Vol. I II, Taxman Publication
- Hanif & Mukherjee, Financial Accounting, Vol III , TMH
- Frank Wood, Business Accounting Vol II, Pearson
- V.K.Goyal, Corporate Accounting, Excel Books
- Rajasekaran, Corporate Accounting, Pearson
- Accounting Standards issued by ICAI



**DSE Papers**  
**SEMESTER V**  
**DSE 5.1 M : Consumer Behaviour & Sales Management (50+50)**  
**Full Marks – 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

**Module I: Consumer Behaviour**

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

**Unit 1 : Consumer Behaviour**

**No. of Classes 8 / Marks 8**

• Concept : Application of Consumer Behaviour Knowledge
• Consumer Behaviour Model
• Market Segmentation
• Marketing Ethics

**Unit 2 : Determinants of Consumer Behaviour**

**No. of Classes 8 / Marks 8**

• Consumer as an Individual, Need, Motivation
• Personality, Perception, Learning Attitude
• Communication persuasion
• Consumers in their Social & Cultural Setting, the family, Social class, cross cultural consumer behaviour

**Unit 3 : Consumer Decision-making Process**

**No. of Classes 8 / Marks 8**

• Personal Influence & Opinion
• Leadership Process
• Diffusion of innovations
• Consumer decision making process

**Unit 4 : Consumer Behaviour & Society**

**No. of Classes 8 / Marks 8**

• Health - care Marketing
• Political marketing
• Social Marketing
• Environmental Marketing
• Public Policy & Consumer Protection

## **Unit 5 : Consumer Behaviour and Market Research**

**No. of Classes 8 / Marks 8**

• Relevance of Marketing Information System
• Market Research in assessing Consumer Behaviour

### **Suggested Readings:**

- Suhiffman & Kanuk, Consumer Behaviour, PHI
- Loudon & Bitta, Consumer Behaviour, TMH
- Bennet & Kassarian, Consumer Behaviour, PHI
- Batra & Kazmi, Consumer Behaviour, Text & cases, Excel Books
- Beri, Marketing Research, TMH
- Bradley, marketing Research. Oxford University Press
- Schiffman and Kannak, Consumer Behaviour, Pearson Education

## **Module II : Sales Management**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

## **Unit 1 : Sales Organization**

**No. of Classes 8 / Marks 8**

• Purpose and General principles of organization
• Every-growing complexity of Sales Organisation
• Different Models of Sales Organisation
• Factors determining Sales Organisation Structure
• Decentralised Structure
• Common problems associated with Structuring the Sales Organisation
• Modification of Sales Organisation
• Tasks of Chief Sales Executive

## **Unit 2 : Designing the Sales Force**

**No. of Classes 8 / Marks 8**

• Objectives
• Strategies
• Structure size
• Sales force Compensation

## **Unit 3 : Managing the Sales Force**

**No. of Classes 8 / Marks 8**

• Recruitment
• Selection
• Placement
• Transfer
• Training and Development
• Grievances handling of Sales Force
• Motivating Leading and Communicating with the Sales Force
• Performance Evaluation of Sale Force

**Unit 4 : Personal Selling and Salesmanship****No. of Classes 8 / Marks 8**

• Buyer-Seller Dyads
• Theories of selling
• Personal Selling as a Career
• Steps in Personal Selling – Methods of Approaching a Customer
• Handling Customer Objections
• Negotiations – Bargaining and Negotiation Approaches, Bargaining Strategies and Tactics during Negotiation

**Unit 5 : Marketing Channels and Selection****No. of Classes 8 / Marks 8**

• Need
• Functions
• Levels
• Identifying and Analyzing Customers' needs for Products Services
• Developing channel Objective, Selection of Appropriate Channel
• Selection of Appropriate channels
• Motivating, Leading, Communicating with the Channel Members
• Performance Evaluation of the Channel Members
• Modifying Channel Arrangements

**Suggested Readings:**

- Cundiff, Still and Govoni, Sales management, PHI
- Smith, Sales Management, PHI
- Kotler, Marketing Management, PHI
- Zieglar, et al Sales Promotion and Modern Merchandising
- Stem, Ansary and Coughlan Marketing Channels, PHI
- Warmer, Marketing and Distribution, Macmillan, New York
- Pyle, Marketing Principles, Macmillan, New York
- Doughlas, et al Fundamentals of Logistics and Distributions, TMH
- Gupta, Sales and Distribution Management, Excel Books
- Havaladar & Cavale, Sales and Distribution Management, McGraw Hill
- Hawkins, Motherbaugh & Mookerjee, Consumer Behaviour, McGraw Hill
- Schiffman, Wisenblit & Kumar, Consumer Behaviour, Pearson

**DSE 5.2 M : Product & Pricing Management (50)  
& Marketing Communication (50)****Full Marks – 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks****Marks shown against the units indicate marks for Semester–end Examinations**

## Module I: Product & Pricing Management

Internal Assessment: 10 marks

Semester-end Examinations: 40 marks

Total 50 marks

### Unit 1 : Introduction to Product Management

No. of Classes 8 / Marks 8

- |   |
|---|
| • Product: Basic concept of product, levels, Importance in Marketing Mix, Product Mix Decisions |
| • Product-Life-Cycle: Concept, strategies related to different stages of PLC.                   |
| • Product Portfolio: Concept, Importance, BCG Model   |

### Unit 2 : Marketing Environment and Market segmentation

No. of Classes 8 / Marks 8

- |   |
|---|
| • Marketing Environment: concept, Importance, Micro-environmental factors and Macro-environmental factors (Demographic, Economic, Natural, Technological, Socio-Cultural & Political-Legal) |
| • Market segmentation: Concept, Importance and bases  |

### Unit 3 : New Product Development

No. of Classes 8 / Marks 8

- |                                      |
|--------------------------------------|
| Concept                              |
| Importance                           |
| Stages                               |
| Reasons for failure of a new product |
| Adoption process.                    |

### Unit 4 : Packaging and Branding:

No. of Classes 8 / Marks 8

- |  |
|--|
| Packaging:                                 |
| • Concept                                  |
| • Importance                               |
| • Packaging Strategies                     |
| • Legal and Ethical aspects of packaging   |
| Branding:                                  |
| • Concept                                  |
| • Importance                               |
| • Positioning and repositioning strategies |
| • Basic concepts of Brand equity           |

### Unit 4 : Pricing Management:

No. of Classes 8 / Marks 8

- |  |
|--|
| • Concept  |
| • Important features of pricing as an element of Marketing Mix |
| • Importance of pricing in consumer buying process             |
| • Determining factors of effective pricing                     |

• Pricing methods
• Pricing in the Indian context
• Regulatory Price Environment

**Suggested Reading:**

- Kotler and Kellar, Marketing Management, Pearson
- William and Ferrell, Marketing, Houghton Mifflin McGraw-Hill
- Neelamegham, Marketing in India: Cases and Readings, Vikas Publishing
- Majumder, Product Management in India, PHI
- McCarthy and Perreault, Basic Marketing Managerial Approach, Irwin, Homewood, Illinois
- Srivastava, R. K., product Management & New product Development, Excel Book
- Ramaswamy and namakumari, Marketing Management, Macmillan India
- Srinivasan Case Studies in marketing: The India Context, PHI
- Baker & Hart, Product Strategy and Management, Pearson

## **Module II: Marketing Communication**

Internal Assessment:            **10 marks**  
Semester-end Examinations: **40 marks**  
Total                      50 marks

**Unit 1 : Communication Process**

**No. of Classes 8 / Marks 8**

• Importance of communication
• Steps involved in the process of Communication
• Barriers to Marketing Communication
• Social Media, Digital Marketing- Concepts

**Unit 2 : Communication Mix**

**No. of Classes 8 / Marks 8**

• Advertising : Definition & Importance
• Different Advertising Function
• Types of Advertising
• Advertising Process
• Setting Advertising Objective
• Budget
• Economic aspects of Advertising

**Unit 3 : Advertising Process**

**No. of Classes 8 / Marks 8**

• Advertising Appeal
• Copy Writing
• Headline

• Illustration
• Message
• Copy Type
• Campaign Planning
• Different Types of Media
• Media Planning
• Scheduling

#### **Unit 4 : Impact of Advertising**

##### **No. of Classes 8 / Marks 8**

• Advertising Agency Roles
• Relationships with Clients
• Role of Advertising Department
• Measuring Advertising Effectiveness
• Legal and Ethical Aspects of Advertising

#### **Unit 5 : Sales Promotion**

##### **No. of Classes 8 / Marks 8**

• Meaning
• Nature and Function
• Types
• Sales Promotion Techniques (Sample Distribution, Coupon, Price off premium plan, Consumer contests, Displays Demonstration, Trade Fairs and Exhibitions)
• Role of Sales force
• Limitation of Sales Promotion

#### **Suggested Readings:**

- Batra and Myers, Advertising Management, Prentice Hall
- Sengupta, Brand Positioning Strategies for Competitive Advantage, TMH
- Cundiff, Still and Govoni, Sales Management, Prentice Hall
- Rossiter and Percy, Advertising and Promotion Management, MacGraw-Hill Sundage,
- Fryburger and Rotzoll, Advertising Theory and Practice, AITBS
- Belch and Belch, Advertising and Promotion, McGraw Hill

### **DSE 5.1T PUBLIC FINANCE AND TAXATION**

**Full Marks – 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

- Unit 1: **Origin and Development of Public Finance** (L 8/8 Marks)
- *Meaning, The rationale for State intervention – market failure, externalities, public goods*
  - *Public finance and private finance, principle of maximum social advantage*
- Unit 2: **Taxation and Government Revenue** (L 8/12 Marks)
- *Benefit approach, Ability to pay approach*
  - *Impact and incidence of taxation, Direct and indirect taxes, Excess burden of taxes*
  - *Sources and classification of public revenues*
- Unit 3: **Government Expenditure** (L 8/4Marks)
- *Provision of public goods and merit goods, redistribution objective of public expenditure*
- Unit 4: **Impact of Taxation and Public Expenditure** (L 8/8Marks)
- *Effect on production, investment, distribution and stability*
- Unit 5: **Public Debt – Meaning, Impact and Management** (L 8/8Marks)
- Unit 6: **Development of Federal Finance in India** (L 8/8 Marks)
- *The constitutional arrangements, Finance Commissions*
- Unit 7: **Central Finances in India** (L 8/8 Marks)
- *Sources and uses of funds, effects of Fiscal Policy*
  - *Different concepts of Deficit- Impact of deficit*
- Unit 8: **State Finances** (L 8/8 Marks)
- *Sources and uses of funds, issues of federalism*
- Unit 9: **Fiscal Reforms in India** (L 8/8 Marks)
- *Changing scenario of Indian tax Structure, FRBM Act*
- Unit 10: **Issue of Public Debt in India –Internal and External** (L 8/8 marks)

**Suggested Readings:**

- Musgrave, R., The Theory of Public Finance, McGraw Hill
- Musgrave & Musgrave, Public Finance in Theory and Practice, McGraw Hill
- Bhargava B.M., The Theory and Working of Union Public of India
- Vaish & Agarwal, Public Finance, Willy Eastern
- Rosen, S.H. & Gayer, T., Public Finance, McGraw Hill

**DSE 5.2 T**  
**Paper DSE 5.2T**

**DIRECT TAX LAW AND PRACTICE**  
**Full Marks – 100**

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

- Unit 1 :**
- a) **Residential Status and Incidence of Tax**  
Residential status of a company & tax incidence. Income deemed to accrue or arise in India u/s 9.
  - b) Incomes which do not form part of Total Income  
Sec 10(11A), 10(12A), 10(30), 10(31), 10(34) read with sec. 115BBDA, 10(35), 10(43) and 10AA. (L-10/M-10)

- Unit 2 : Heads of Income and Provisions Governing Heads of Income**
- Profits and gains of business or profession*  
Advance level discussion with special emphasis on presumptive taxation
  - Capital Gains*  
Advance level discussion with special emphasis on transfer, treatment u/s 45(1A), 45(2), 45(3), 45(4), 45(5), Transfer of assets between holding and subsidiary company, and exemptions.
  - Income from other sources*  
Advance level discussion with special emphasis on gift and deemed dividend. **(L-25 / M-25)**
- Unit 3 :**
- Income of other Persons included in Assessee's Total Income**  
Revocable transfer of assets, Income from assets transferred to the benefit of spouse and son's wife, conversion of self acquired property into joint family property.
  - Deductions from Gross Total Income**  
Deductions u/s 80IAB, 80IAC, 80IBA, 80IE, 80JJ, 80JJAA  
**(L-10 / M-10)**
- Unit 4 :**
- Relief U/S 89*
  - Double Taxation Relief*
  - Business Restructuring – Amalgamation, Demerger, Stump Sale with special reference to treatment of depreciation and capital gains.*  
**(L-10 / M-10)**
- Unit 5 : Computation of Total Income and Tax Payable**  
Advance level problems on computation of total income and tax liability of an individual, HUF, Firm, LLP and AOP (including application of AMT)  
**(L-25 / M-25)**

#### ***Suggested Readings***

- *Singhania V.K., and Singhania K, Direct Tax Law and Practice, Taxmann*
- *Lal and Vashist, Direct Taxes, Pearson*
- *Ahuja and Gupta, Direct Taxes Law And Practice, Bharat*
- *Manoharan and Hari, Direct Tax Laws, Snowwhite*

***Latest edition of the books may be read.***

**DSE 5.1eB**  
**FUNDAMENTALS OF COMPUTER**  
**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Unit 1. Computer Basics:** Characteristics of computer. Generations of computer. Type of computer – Mainframe, Mini, Micro (desktop, laptop and handheld), Super Computer. Inside a Computer – Power supply (SMPS), Motherboard, Ports and interfaces, Expansion Cards, memory Chips, Ribbon Cables, Storage devices, Processor. [12 lectures / 12 Marks]

**Unit 2. CPU organisation and architecture:** Arithmetic/Logic Unit (ALU), control Unit (CU), Registers, System Bus, Processor to Memory Communication Processor to I/O devices Communication. [12 lectures / 12 Marks]

**Unit 3. Memory organization:** Memory representation, Cache memory, Primary memory – RAM and ROM. Functions of RAM and ROM. Different types of RAM and ROM.



Secondary memory – Magnetic and optical storage devices (brief description of different types). Storage organization of a Magnetic disk. Mass storage devices – RAID, Automated Tape Library. [10 lectures / 10 Marks]

**Unit 4. Input and Output devices:** Major types and their functions. [6 lectures / 6 Marks]

**Unit 5. Operating System:** Concept, types, functions. [6 lectures / 6 Marks]

**Unit 6. Problem Solving Tools: Algorithm. Flowcharts-** Concepts, advantages and disadvantages of flowcharts, Problem solving using flowcharts.

**Decision Tables** - Concepts, advantages and disadvantages of decision tables, Problem solving using decision tables. [12 lectures / 12 Marks]

**Unit 7. Data communication and Computer networks:** Transmission Modes - Simplex, Half-Duplex, Full Duplex. Analog and digital transmission. Synchronous and Asynchronous transmission. Multiplexing. Network Concept, Types - LAN, WAN, MAN, VAN, SAN.

Various Topologies - Bus, Star, Ring, Mesh, Tree. Protocol Models - OSI, TCP/IP

[16 lectures/ 16 Marks]

**Unit 8. Multimedia essentials:** Definition, building blocks of multimedia, multimedia system, multimedia application. [6 lectures / 6 Marks]

**Suggested Readings:**

- ITLESL, Introduction to Computer Science, Pearson Education
- ITLESL, Introduction to Information Technology, Pearson Education
- .Sinha & Sinha, Fundamentals of Computers, BPB Publication.
- .Rajaraman, Fundamentals of Computers, PHI

## **DSE 5.2 eB**

### **DATABASE MANAGEMENT SYSTEM & SYSTEM ANALYSIS AND DESIGN**

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

#### **Module I: DATABASE MANAGEMENT SYSTEM**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 1. Introduction to DBMS:** Concepts of database and database management system(DBMS).

Data abstraction. Architecture – three schema architecture. Administration roles. (L8 /M8)

**Unit 2. Data models:** hierarchical model, network model and relational model. (L6 /M6)

**Unit 3. Database languages:** Data Definition Language (DDL), Data Manipulation Language (DML), and Data Control Language(DCL). (L6 /M6)

**Unit 4. SQL – An Overview:** SQL constructs, embedded SQL , Query & Query Optimization Techniques. (L6 /M6)

**Unit 5. Database design:** Design phases - conceptual, logical and physical . ER diagram and model. (L6 /M6)

**Unit 6. Database Normalisation:** Concept. Normal forms - 1NF, 2NF, 3NF, BCNF. (L4 /M4)

**Unit 7. Indexing;** Single level indexing - Primary, Clustering, Secondary. Multilevel indexing. (L4 /M4)

**Suggested Readings:**

- Korth, Data Base System Concepts, TMH
- Leon,Data Base Management System, VIKAS
- Ivan Bayross, PL/SQL Programming

## **Module II:SYSTEM ANALYSIS AND DESIGN**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

**Unit 1. Overview of System analysis and design:** system concepts. System Development models – Waterfall model, Spiral model. System development methods – major steps. (L8 /M8)

**Unit 2. Phases in System Development:** Problem definition. Analysis. Design. Implementation. Evaluation. (L6 /M6)

**Unit 3. Information requirement analysis:** Process modelling with physical and logical data flow diagrams. (L10 /M10)

**Unit 4. System design:** Process descriptions, Input/output controls, object modeling, Database design, User Interface design, Documentation, Data Dictionary, Development methodologies: Top down, bottom up, structured chart, decision table, decision tree. (L10 /M10)

**Unit 5. Testing** – Unit, integration, system, Acceptance, regression, Test Case generation. (L6 /M6)

### **Suggested Reading:**

- Parthasarathi, System Analysis & Design, EPH
- Raja Raman, Analysis & Design of Information Systems, PHI

## **Year 3: Semester VI**

		<b>Marks</b>	<b>Credit Hours</b>	
AECC 6.1Chg	Environmental Studies	<b>100</b>	<b>2</b>	
SEC 6.1Chg	Computerised Accounting and e-Filing of Tax Returns (70+30)	<b>100</b>	<b>4</b>	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	<b>100</b>	<b>6</b>	
DSE 6.2 A**	Financial Management	<b>100</b>	<b>6</b>	

**24**

### **SEC 6.1Chg**

#### **COMPUTERISED ACCOUNTING SYSTEM and E-FILING OF TAX RETURN**

**(Practical)**

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Unit-1: Computerized Accounting Package: Using Generic Software [40 Marks, Class: 40]**

- (a) Company creation, ledger creation, order processing, accounting voucher, inventory voucher, memorandum voucher, invoicing, multiple godown handling, Transfer of materials across godowns, Bank Reconciliation,
- (b) Cost Centre, Cost Category, Bill of Material (BoM), Budget and Controls
- (c) Payroll Accounting
- (d) TDS, GST
- (e) Back up & Restore, Export and Import data

**Unit 2: Designing Computerized Accounting System****[15 Marks, Class:15]**

- (a) Introduction to DBMS Package – Table, Query, Form and Report
- (b) Designing Computerized Accounting System using DBMS Package  
Creating a voucher entry Form, Preparing ledgers, trial balance, profit & loss a/c, and balance sheet with Form wizard and Report
- (c) Designing Payroll System for Accounting using Form, Query, and Report

**Unit-3: E-filing of Tax return [25 Marks, Class: 25]**

- (a) Preparation and submission of the Income Tax Return (ITR) offline/online for individual taxpayer [e-filing without using DSC and with using DSC, EVC]
- (b) View form 26AS, Upload return, View e-file returns, e-verification
- (c) Use of e-tax calculator (including interest calculation u/s 234A, 234B, 234C)
- (d) E-Pay tax (Challan No./ITNS 280, ITNS 281)
- (e) Prepare and submit online form 10E [Relief u/s 89(1)]

**Project Work: Assignment based for each and every topic should be prepared**

- Software: Singhania, V.K., E-Filing of Income Tax Returns and Computations of Tax, Taxmann
- Software: “Excel Utility”, [incometaxindiaefiling.gov.in](http://incometaxindiaefiling.gov.in)

**DSE 6.1 A****FINANCIAL REPORTING AND FINANCIAL STATEMENT ANALYSIS****Full Marks 100****Internal Assessment: 20 marks****Semester-end Examinations: 80 marks****Total 100 marks****Marks shown against the units indicate marks for Semester–end Examinations****FINANCIAL REPORTING AND FINANCIAL STATEMENT ANALYSIS**

Unit	Topic	Details	Marks allotted	No. of lectures
1	Holding Company	Meaning of Holding Company & Subsidiary Company; relevant standard; Consolidation of Balance Sheets of Parent & Subsidiary (only one); Minority Interest – Basic principles and preparation of CBS; CBS with loss balance	15	15

		of Subsidiary Treatment for: Revaluation of Assets of Subsidiary, Intra-group Transactions, Holding of different securities. Consideration of dividend paid or proposed by Subsidiary in CBS; Bonus Shares issued or proposed to be issued by Subsidiary (excluding shares acquired on different dates by the Parent company, chain and cross holding)		
2	Accounting Standards	Conceptual Framework, Presentation of Financial Statements (Ind AS 1), Property, Plant and Equipment (Ind AS 16), Earnings per share (Ind AS 33), [Basic Definitions & Theoretical Concepts, Scope]	15	15
3	Fund Flow Statement	Concept of fund, meaning, nature, various sources And applications, advantages & limitations of Fund Flow Statement.	20	5
4	Cash Flow Statement	Meaning, objectives, difference with Fund Flow Statement; activity classification and preparation and presentation as per relevant Accounting Standard.		15
5	Introduction to Financial Statements Analysis	Nature and Component of Financial Statement; Meaning and Need for FSA, Traditional & Modern approaches to FSA, Parties interested in FSA. • Comparative Statement – meaning, preparation, uses, merits and demerits • Common -size Statement – meaning, preparation, uses, merits and demerits • Trend Analysis – meaning, determination, uses, merits and demerits	10	12
6	Accounting Ratios for FSA	Meaning, objective, Classification of Accounting Ratios, Advantages & Limitations Preparation of Classified Financial Statements and Statement of Proprietor's Fund from the given Ratios. Computation, Analysis and Interpretation of important ratios for measuring –Liquidity, Solvency, Capital Structure, Profitability and Managerial Effectiveness.	20	18
			80	80

**Suggested Readings:**

- L.S.Porwal, Accounting Theory, Tata Mcgraw Hill
- Gokul Sinha, Accounting Theory & Management Accounting,
- B. Banerjee, Regulation of Corporate Accounting & Reporting in India, World Press.
- Lev, Financial Statement Analysis-a new approach, Prentice Hall

- Foster G, Financial Statement Analysis, Prentice Hall
- White, Sondhi & Fred, Analysis and Use of Financial Statement, John Wiley
- Bernstein & Wild, Financial Statement Analysis; theory, application & interpretation, McGraw Hill
- Ormiston, Understanding Financial Statement, Pearson
- Bhattacharyya, Asish K., Introduction to Financial Statement Analysis, Elsevier
- Hanif & Mukherjee, Financial Accounting, Vol III, McGraw Hill
- Subramanyam, K.R. and Wild, Financial Statement Analysis, McGraw Hill

## DSE 6.2 A

### FINANCIAL MANAGEMENT

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

Unit	Topic	Content	Marks	Hours
1	<b>Introduction</b>	<ul style="list-style-type: none"> <li>▪ Important functions of Financial Management</li> <li>▪ Objectives of the firm: Profit maximisation vs. Value maximisation</li> <li>▪ Role of Chief Financial Officer.</li> <li>▪ Financial environment in which a firm has to operate</li> </ul>	10	10
	<b>Basic Concepts</b>	<ul style="list-style-type: none"> <li>• Time Value of Money: concept and reasons</li> <li>• Compounding and Discounting techniques</li> <li>• Concepts of Annuity and Perpetuity.</li> <li>• Risk-return relationship (concepts only)</li> </ul>		
2	<b>Sources of Finance and Cost of Capital</b>	<ul style="list-style-type: none"> <li>• Different sources of finance; long term and short term sources</li> <li>• Cost of capital: concept, relevance of cost of capital, Implicit and Explicit cost, specific costs (its computation) and weighted average cost (its computation) , rationale of after tax weighted average cost of capital, marginal cost of capital (its computation).</li> </ul>	10	10
3	<b>Leverage and Capital Structure Theories</b>	<ul style="list-style-type: none"> <li>• EBIT-EPS analysis and its limitations. Financial break even, point of indifference</li> <li>• Leverage- Business Risk and Financial Risk - Operating and financial leverage, Trading on Equity</li> <li>• Capital Structure decisions - Capital structure patterns, designing optimum capital structure, Constraints, Features of sound capital structure, Various capital structure theories (excluding M-M model).</li> </ul>	10	10
4	<b>Working Capital Management (1)</b>	<ul style="list-style-type: none"> <li>• Introduction; Meaning and various concepts of Working Capital</li> <li>• Management of Working Capital and Issues in Working Capital</li> <li>• Estimating Working Capital Needs; Operating or Working Capital Cycle.</li> </ul>	10	10
5	<b>Working</b>	<ul style="list-style-type: none"> <li>▪ Policies relating Current Assets – Conservative, Aggressive</li> </ul>	10	10

	<b>Capital Management (2)</b>	<p>and Balanced</p> <ul style="list-style-type: none"> <li>Various sources of finance to meet working capital requirements; Financing current assets: Strategies of financing (Matching, Conservative, and Aggressive policies)</li> <li>Management of components of working capital (debtors management only–credit period -simple type )</li> </ul>		
<b>6</b>	<b>Capital Expenditure Decisions (1)</b>	<ul style="list-style-type: none"> <li>Purpose, Distinguishing features, Objectives &amp; Process, Understanding different types of projects</li> <li>Concept of Cash flow; Cash flow vis-à-vis Profit and determination of Cash flow</li> <li>Techniques of Decision making: Non-discounted and Discounted Cash flow Approaches</li> <li>Payback Period method, Accounting Rate of Return and their relative merits and demerits</li> </ul>	<b>10</b>	<b>10</b>
<b>7</b>	<b>Capital Expenditure Decisions (2)</b>	<ul style="list-style-type: none"> <li>Discounted Payback Period, Net Present Value, Profitability Index and Benefit Cost ratio, Internal Rate of Return, relative merits and demerits of the methods.(excluding replacement decision)</li> <li>Ranking of competing projects, Ranking of projects with unequal lives. Capital Rationing.</li> </ul>	<b>10</b>	<b>10</b>
<b>8</b>	<b>Dividend Decisions</b>	<ul style="list-style-type: none"> <li>Meaning, Nature and Types of Dividend, Dividend and Retention; concept of pay-out ratio, retention ratio and growth.</li> <li>Dividend policies and formulating a dividend policy</li> <li>Dividend Theories: Walter’s Model, Gordon’s Model,</li> </ul>	<b>10</b>	<b>10</b>
		Total	<b>80</b>	<b>80</b>

### Suggested Readings

- M.Y.Khan & P.K.Jain, Financial Management, TMH
- Van Horne, Financial Management & Policy, Pearson
- Van Horne, Fundamentals of Financial Management, PHI
- Banerjee, B., Financial Policy & Management Accounting, PHI
- Chandra,P., Financial Management, TMH
- Rustagi, R.P. *Fundamentals of Financial Management*. Taxmann Publication Pvt. Ltd.
- Pandey, I.M. *Financial Management*. Vikas Publications.
- Majumdar, Ali and Nesha, Financial Management, ABS
- Kothari, R, Financial Management, Sage

**DSE 6.1 M**  
**Retail Management and Marketing of Services (50+50)**  
**Full Marks 100**  
**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

## **Module I: Retail Management**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

### **Unit 1 : Introduction to Retailing**

#### **No. of Classes 8 / Marks 8**

• Relevant Concept
• Importance
• Function

### **Unit 2 : Retailing in India**

#### **No. of Classes 8 / Marks 8**

• Factors determining Growth of Retailing in India
• Impact of Retail in Nation's Economy
• Key Drivers of the Indian Retail Industry

### **Unit 3 : Retail Formats**

#### **No. of Classes 8 / Marks 8**

• Concept
• Types of Retailing – Multi Channel Retailing, Single Channel Retailing
• Product factors of Retail format
• Location factors of Retail format
• Current Indian Scenario

### **Unit 4 : Pricing in Retail**

#### **No. of Classes 8 / Marks 8**

• Price factors of Retail format
• Importance of Retail Pricing
• Factors affecting Retail Pricing
• Approaches to Product Pricing

### **Unit 5 : Promotion in Retail**

#### **No. of Classes 8 / Marks 8**

• Need and Objective of Promotional Mix in Retailing
• Promotional Mix and Strategy development
• Customer Relationship Management

### **Suggested Reading**

- Madaan, Fundamentals of Retailing, Tata McGraw-Hill
- Pradhan, S., Retailing Management, McGraw Hill
- Seshanna & Prasad, Retail Management, McGraw Hill
- Berman, Evans & Mathur, Retail Management, Pearson ☐

## **Module II: Marketing of Services**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

### **Unit 1 : Introduction to Services Marketing & Services and economy of a country**

**No. of Classes 8 / Marks 8**

• Concept of services
• Types
• Function
• Nature
• Characteristics
• Understanding Services Customers
• Impact of service marketing in the economy of a country

### **Unit 2 : Issues in Marketing of Services**

**No. of Classes 8 / Marks 8**

• Service- Product or Packages
• Pricing in Services
• Place in Services
• Promotion of Service
• People in Services
• Physical Evidence
• Process Management

### **Unit 3 : Service Marketing Management**

**No. of Classes 8 / Marks 8**

• Managing Services Quality
• Relationship marketing - Concept
• Service Communication Mix
• Communication Strategy

### **Unit 4 : Consumer Behaviour and Service**

**No. of Classes 8 / Marks 8**

• Consumer Behaviour consideration
• Guidelines for Developing Service Communications
• Consumer Decision making process & ethical issues (concepts, factors influence decision making process, ethical decision making methods)

### **Unit 5 : Service Marketing in Non-profit and profit Organisations**

**No. of Classes 8 / Marks 8**

Travel and Tourism
Financial Services
Information Technology Services



Media Services
Health Care Services
Educational Services

### Suggested Reading

- Verma, H. V., Services Marketing, Pearson
- Venugopal and Raghu, Services Marketing, Himalaya Publishing Ltd.
- Ravi Shankar, Services Marketing : The Indian Perspective, Excel Books
- Rampal & Gupta, Services Marketing, Concepts, Applications & Cases, Galgotia
- Apte, Services Marketing, Oxford University Press

## DSE 6.2 M

### Rural Marketing and International Marketing (50+50)

#### Full Marks 100

**Internal Assessment: 20 marks**  
**Semester-end Examinations: 80 marks**  
**Total 100 marks**

Marks shown against the units indicate marks for Semester–end Examinations

### Module I: Rural Marketing

**Internal Assessment: 10 marks**  
**Semester-end Examinations: 40 marks**  
**Total 50 marks**

### Unit 1 : Rural Marketing and Environment

No. of Classes 8 / Marks 8

• Concept
• Importance
• Rural vs. Urban Marketing
• Geographic
• Economic
• Socio-Cultural
• Infrastructural factors
• Their influence on Rural Marketing Operation

### Unit 2 : Rural Consumer

No. of Classes 8 / Marks 8

• Characteristics
• Attitudes
• Behaviour
• Buying Patterns and Influences

**Unit 3 : Rural Marketing Strategies****No. of Classes 8 / Marks 8**

• Segmenting Rural markets
• Product Planning for Rural markets
• Market Size
• Packaging and Branding Decisions
• Pricing Decisions

**Unit 4 : Promotion and Distribution in Rural Markets****No. of Classes 8 / Marks 8**

• Promotion in Rural Markets
• Distribution Channels and Logistics in Rural Markets

**Unit 5 : Marketing of Agricultural Products****No. of Classes 8 / Marks 8**

• Pricing
• Distribution of Agricultural Products
• Role of Government
• Other organization in Marketing Agricultural products
• Co-operative Marketing
• Problems in Agricultural Marketing

**Suggested Readings:**

- Rajagopal, Management of Rural Business, Wheeler
- Neelamegham, Marketing in India : Cases and Redings, Vikas Publishing
- Mathur, U. C., Rural Marketing, Wheeler
- Nyayar and Ramaswamy, Globalization and Agricutural Marketings, Rawat Publishers
- Mamoria, Agricultural marketing, Himalaya Publisheing House
- Kashyap, P., Rural Marketing, Pearson

**Module II: International Marketing****Internal Assessment: 10 marks****Semester-end Examinations: 40 marks****Total 50 marks****Unit 1 : Introduction****No. of Classes 8 / Marks 8**

• Definition
• Nature and Scope of International Marketing
• International Marketing Environment (Basic Concepts) PESTL-SOWC
• Market Entry (When-Why-How)
• Entry Strategy (Concept - Features - Advantages and Disadvantages)

**Unit 2 : Product/ Service Planning for International Market****No. of Classes 8 / Marks 8**

Categorization (Standardisation / Adaptation) of Product/ Service Planning
• Packaging and Labelling
• Quality
• After Sales services

**Unit 3 : International Pricing****No. of Classes 8 / Marks 8**

• Factors influencing International Price
• Pricing Strategy
• Export Price
• Price Quotation and Payment Terms

**Unit 4 : Promotion and Distribution of Product/Service Abroad****No. of Classes 8 / Marks 8**

Promotional Tools:
• Sales literature
• Direct Mail
• Personal Selling
• Advertising
• Trade Fairs and Exhibitions
• Distribution Channels (Categorization – Features - advantages and disadvantages)
• Logistics (Meaning – Categorization - advantages and disadvantages)
• Selection and management of Foreign Sales Agents

**Unit 5 : Import and Export Policies and Practices in India****No. of Classes 8 / Marks 8**

• EXIM Policy - An Overview
• Trends in India's Foreign Trade
• Steps in Starting an Export Business
• Documentation and Procedure
• Legal Aspects
• Export Finance
• Export Risk Insurance
• Export Assistance and Incentives
• Export Oriented Unit
• Export Processing Zone

**Suggested Readings**

- Bhattacharyya and Varsney, International Marketing Management, Sultan Chand
- Bhattacharyya, Export Marketing Strategies for Success, Global Press
- Keegan, Multinational Marketing Management, Prentice Hall
- Kriplani, International Marketing, Prentice Hall
- Taggart and Mott, The Essence of International Business, Prentice Hall

- Kotler, Principles of Marketing, Prentice Hall
- Caterora and Keavenay, Marketing : an International Perspective, Irwin, Homewood, Illinois
- Paliwala, The Essence of International Marketing, Prentice Hall
- Vasudeva, International Marketing, Excel Books
- Pateora, Graham and Salwan, International Marketing, McGraw Hill

### **DSE 6.1 T Indirect Tax: Laws and Practices**

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

**Full Marks – 100**

<b>Unit 1 :</b>	<b>a) Basic Concepts</b>	
	Concepts of Indirect Tax, Difference between Direct and Indirect Tax, Indirect tax structure in India, Proposed changes in indirect tax structure in India.	
	<b>b) Central Excise</b>	(L-25 / M-25)
<b>Unit 2 :</b>	<b>WB VAT</b>	(L 15 / M 15)
<b>Unit 3 :</b>	<b>Customs</b>	(L 20 / M 20)
<b>Unit 4 :</b>	<b>Central Sales Tax</b>	(L 10 / M 10)
<b>Unit 5 :</b>	<b>Service Tax</b>	(L 10 / M 10)

#### **Suggested Readings**

- Datey V.S., Indirect Taxes Law And Practice, Taxmann
- Sanjeev Kumar, Systematic Approach to Indirect Taxes, Bharat
- Bangar and Bangar, Students' Gide to Indirect Taxes, Aadhya Prakashan.

*This Paper will be replaced by Goods & Service Tax Law whenever the law is enforced and accordingly revised syllabus will be announced.*

**Latest edition of the books may be read.**

### **Paper DSE 6.2T**

#### **TAX PROCEDURE AND PLANNING**

**Full Marks 100**

**Internal Assessment: 20 marks**

**Semester-end Examinations: 80 marks**

**Total 100 marks**

**Marks shown against the units indicate marks for Semester–end Examinations**

### **Module I: TAX PROCEDURE**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

- Unit 1 : Return of Income and Assessment**
- a) Forms for all types of assesses
  - b) Assessments and Reassessments (basic concepts) (L 15 / M 15)
- Unit 2 :**
- a) Advance Tax (all types of assesseees)
  - b) Interest & Fees
  - c) Advance Ruling for Non-resident (L 10 / M 10)
- Unit 3 :**
- a) TDS
  - b) Refund of Excess Payment (L 5 / M 5)
- Unit 4 :**
- a) Penalties and Prosecutions
  - b) Appeals and Revisions
  - c) Income Tax Authorities (L 10 / M 10)

**Module II: TAX PLANNING**

**Internal Assessment: 10 marks**

**Semester-end Examinations: 40 marks**

**Total 50 marks**

- Unit 1 : Basic Concepts**
- a) Concept and difference between tax planning, tax avoidance, tax evasion and tax management.
  - b) Objectives, requisites, factors and types of tax planning
  - c) Tax on distributed Profit and on units of mutual fund. (L 5 / M 5)
- Unit 2 : Tax Planning-I**
- a) Tax Planning under different Heads of Income
  - b) Tax Planning on Deductions under Chapter VIA (L 10/M 10)
- Unit 3 : Tax Planning-II**
- a) Setting up a New Business : Location, nature and form of business.
  - b) Financial Management Decisions : Capital structure, dividend policy, deemed dividend and bonus shares.
  - c) Tax Planning related to sale of scientific research assets.
  - d) Tax Planning related to Amalgamation, Demerger and conversion of company into LLP.
  - e) Transfer of assets between Holding & Subsidiary company
  - f) Tax planning with reference to receipt of insurance premium.
  - g) Own fund versus borrowed fund for financing of assets.
  - h) Sale in domestic market or export
- (L15 / M 15)
- Unit 4 :**
- a) Tax planning in relation to Employees Compensation
  - b) Basic Concepts of transfer pricing, APA.
  - c) Relief for Double Taxation (covering more than one foreign country) (L10 / M 10)

### **Suggested Readings**

- Singhanian V.K., and Singhanian K, Direct Tax Law and Practice, Taxmann
- Lal and Vashist, Direct Taxes, Pearson
- Ahuja & Gupta, Corporate Tax Planning Management, Bharat Law House.
- Singhanian V.K., and Singhanian M, Corporate Tax Planning and Business Tax Procedure, Taxmann.

**Latest edition of the books may be read.**

<b>DSE 6.1 e-B</b>	
<b>Internet &amp; WWW and Functional e-Business System (50+50)</b>	
<b>Full Marks 100</b>	
<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

**Marks shown against the units indicate marks for Semester–end Examinations**

### **Module I: INTERNET AND WORLD WIDE WEB**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Working of the internet with TCP/IP:** Origin of TCP/IP. TCP/IP communication architecture, Internet Architecture, Working of TCP/IP, TCP/IP Applications - FTP, Telnet, Simple Mail Transfer Protocol, Network File System. (L10 /M10)

**Unit 2. Internet Concepts:** WWW, Internet and E-Commerce, Linking to the Internet, Internet Address, Internet Tools- Information Retrieval tools (ftp, Gopher), Communication Tools (Email, FTP, Telnet, Usenet), Multimedia Information Tools (Home page), Information Search Tools (Archie, Veronica, WAIS). Domain Name System. (L12 /M12)

**Unit 3. Intranet and Extranet:** Intranet, Intranet vs. Groupware, Intranet Hardware, Intranet Software, Intranet Services ( Web (HTTP) Publishing, HTML, ), Communication Systems (Email, Fax), Software used in Electronic mail, Electronic Meeting Systems ( Audio conferencing, Video Conferencing, Groupware), Extranet. (L6 /M6)

**Unit 4. Internet Security:** Security on the internet, Network and Website Security Risks, Site Hacking, Security Incidents on the internet security and email, network and website security, Firewall (Concept, Components and Constituents, Benefits), Enterprise wide security Framework, secure physical infrastructure). (L 12/M12)

### **Module II: FUNCTIONAL E-BUSINESS SYSTEM**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1. Applications of E-Business:** Direct Marketing and Selling, Value Chain Integration, Supply Chain Management, Corporate Purchasing, Financial and Information Services, Obstacles in adopting E-Business Applications. (L6 /M6)

**Unit 2. E-Strategy:** Information and Strategy, The virtual value chain planning E-Business project, E-Business strategy and knowledge management. (L 4 /M 4)

**Unit 3. Customer –effective Web design:** Requirements of Intelligent Websites, Website Goals and Objectives, planning the budget, analyzing website structure, fixed versus flexible webpage design, choosing a page size, website development tools, design alternatives, outsourcing web design, testing

and maintaining websites. (L6 /M6)

**Unit 4. Electronic Payment Systems**-Overview of Electronic Payment Systems, Customer to Merchant Payments, Peer to Peer Payments. Electronic Banking, Electronic Fund Transfers. (L6 /M6)

**Unit 5. E-Business Marketing Concepts:** Basic marketing concepts for internet marketing, EBusiness marketing and branding strategies, Strengthening the customer relationship. (L4 /M4)

**Unit 6. E-Commerce and Online service industries:** Online financial services. Online travel services. Online career services. (L4 /M4)

**Unit 7. Mobile Commerce-** Wireless Spectrum, WAP - Origins of WAP, WAP Architecture. Wireless Datagram Protocol(WDP), Short Message Services, General Packet Radio Service(GPRS),Wireless Technology (CDMA, GSM), Different generations in Wireless Communication, Mobile commerce and its future in India. (L10 /M10)

**Suggested Readings:**

- S. Jaiswal, Doing Business on the Internet E-COMMERCE (Electronic Commerce for Business), Galgotia Publications.
- P.T.Joseph, E-Commerce An Indian Perspective, S.J., PHI.
- Kenneth C. Laudon, Carol Guerico Traver, 3.E-Commerce Business.Technology, Society, Pearson Education.
- Schneider, E-Commerce, Thomson Publication

**DSE 6.2 e-B**  
**COMPUTER APPLICATION (Practical) &**  
**E-BUSINESS APPLICATION (Practical)**

<b>Full Marks 100</b>	
<b>Internal Assessment:</b>	<b>20 marks</b>
<b>Semester-end Examinations:</b>	<b><u>80 marks</u></b>
<b><u>Total</u></b>	<b><u>100 marks</u></b>

Marks shown against the units indicate marks for Semester–end Examinations

<b>Module I</b>	
<b>COMPUTER APPLICATION (Practical)</b>	
<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1: C++** [20 classes / 20 marks]

**Unit 2: Use of Accounting software package – ACE, TALLY** [20 classes / 20 marks]

**Module II :E-BUSINESS APPLICATION (Practical)**

<b>Internal Assessment:</b>	<b>10 marks</b>
<b>Semester-end Examinations:</b>	<b><u>40 marks</u></b>
<b><u>Total</u></b>	<b><u>50 marks</u></b>

**Unit 1: HTML & DHTML** [20 classes / 20 marks]

**Unit 2: JAVA** [20 classes / 20 marks]

1. Oops Concept and Introduction to JAVA. 2. An overview of Java. 3. Data Types - variables and arrays. 4. Operators, Control statements. 5. Classes and objects. 6. Inheritance. 7. String and string buffer. 8. Exception handling. 9. Applets.

**M:** Marks allotted to the Unit; **L:** No. of Lectures /Classes for the Unit



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
✓ 6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar



**UNIVERSITY OF CALCUTTA**

**SYLLABUS**

**FOR**

**THREE-YEAR B.Sc. HONOURS COURSE**

**UNDER CHOICE BASED CREDIT SYSTEM**



**BOTANY**

**FOR SESSION 2018-2019**

**Core courses (CC-Total 14 courses to be studied in semesters. All theoretical papers i.e., BOT-A...TH are of 4 credits each and the respective practical papers i.e., BOT-A....P of 2 credits each)**

SEM I:

1. Phycology and Microbiology (BOT-A-CC-1-1-TH, BOT-A-CC-1-1-P)
2. Mycology and Phytopathology (BOT-A-CC-1-2-TH, BOT-A-CC-1-2-P)

SEM II

3. Plant anatomy (BOT-A-CC-2-3-TH, BOT-A-CC-2-3-P)
4. Archegoniate (BOT-A-CC-2-4-TH, BOT-A-CC-2-4-P)

SEM III

5. Palaeobotany and Palynology (BOT-A-CC-3-5-TH, BOT-A-CC-3-5-P)
6. Reproductive biology of Angiosperms (BOT-A-CC-3-6-TH, BOT-A-CC-3-6-P)
7. Plant systematic (BOT-A-CC-3-7-TH, BOT-A-CC-3-7-P)

SEM IV

8. Plant geography, Ecology and Evolution (BOT-A-CC-4-8-TH, BOT-A-CC-4-8-P)
9. Economic Botany (BOT-A-CC-4-9-TH, BOT-A-CC-4-9-P)
10. Genetics (BOT-A-CC-4-10-TH, BOT-A-CC-4-10-P)

SEM V

11. Cell and Molecular biology (BOT-A-CC-5-11-TH, BOT-A-CC-5-11-P)
12. Biochemistry (BOT-A-CC-5-12-TH, BOT-A-CC-5-12-P)

SEM VI

13. Plant Physiology (BOT-A-CC-6-13-TH, BOT-A-CC-6-13-P)
14. Plant Metabolism (BOT-A-CC-6-14-TH, BOT-A-CC-6-14-P)

**Skill enhancement courses (SEC- 2, two papers to be selected from the list taking 1 from SEC A in 3<sup>rd</sup> SEM and 1 from SEC B in 4<sup>th</sup> SEM. Both the papers of 2 credits each and theoretical only)**

SEC A (SEM III)

1. Applied Phycology, Mycology and Microbiology (BOT-A-SEC-A-3-1)
2. Biofertilizers (BOT-A-SEC-A-3-2)

SEC B (SEM IV)

3. Plant Breeding (BOT-A-SEC-B-4-3)
4. Mushroom Culture Technology (BOT-A-SEC-B-4-4)

**Discipline specific elective courses (DSE, four courses to be selected from the 2 groups (A & B). A student shall choose any one paper from each of Group- A and Group- B in 5<sup>th</sup> AND 6<sup>th</sup> SEM. Each course comprises of theoretical component of 4 credits and practical ones of 2 credits)**

DSE-A (Group- A)

SEM V

1. Biostatistics (BOT-A-DSE-A-5-1-TH, BOT-A-DSE-A-5-1-P)
2. Industrial and Environmental Biology (BOT-A-DSE-A-5-2-TH, BOT-A-DSE-A-5-2-P)

SEM VI

3. Medicinal and Ethnobotany (BOT-A-DSE-A-6-3-TH, BOT-A-DSE-A-6-3-P)
4. Stress Biology (BOT-A-DSE-A-6-4-TH, BOT-A-DSE-A-6-4-P)

DSE-B (Group-B)

SEM V

5. Plant Biotechnology (BOT-A-DSE-B-5-5-TH, BOT-A-DSE-B-5-5-P)
6. Horticultural practices and Post Harvest Technology (BOT-A-DSE-B-5-6-TH, BOT-A-DSE-B-5-6-P)

SEM VI

7. Research Methodology (BOT-A-DSE-B6-7-TH, BOT-A-DSE-B-6-7-P)
8. Natural resource management (BOT-A-DSE-B-6-8-TH, BOT-A-DSE-B-6-8-P)

**DISSERTATION/PROJECT: A Dissertation / Project may be given in lieu of a DSE. This is considered as a special course and will be of 6 credits. (Vide page 4 of CUS/268(CIR/18, dated 07.05.2018)). However, the details of the topics, modalities of evaluation etc. to be notified latter on.**

SEME STER	COURSE OPTED	COURSE NAME	CREDIT
I	Core Course 1- BOT-A-CC-1-1-TH	Phycology and microbiology	4
	Core Course 1- BOT-A-CC-1-1-P	Phycology and microbiology Practical	2
	Core Course 2- BOT-A-CC-1-2-TH	Mycology and phytopathology	4
	Core Course 2- BOT-A-CC-1-2-P	Mycology and phytopathology Practical	2
II	Core Course 3- BOT-A-CC-2-3-TH	Plant anatomy	4
	Core Course 3- BOT-A-CC-2-3-P	Plant anatomy Practical	2
	Core Course 4- BOT-A-CC-2-4-TH	Archegoniate	4
	Core Course 4- BOT-A-CC-2-4-P	Archegoniate Practical	2
III	Core Course 5- BOT-A-CC-3-5-TH	Palaeobotany and palynology	4
	Core Course 5- BOT-A-CC-3-5-P	Palaeobotany and palynology Practical	2
	Core Course 6- BOT-A-CC-3-6-TH	Reproductive biology of angiosperms	4
	Core Course 6- BOT-A-CC-3-6-P	Reproductive biology of angiosperms Practical	2
	Core Course 7- BOT-A-CC-3-7-TH	Plant systematics	4
	Core Course 7- BOT-A-CC-3-7-P	Plant systematics Practical	2
	SEC A – BOT-A-SEC-A-3-1/ BOT-A-SEC-A-3-2	Only <b>ONE</b> paper to be selected	2
IV	Core Course 8- BOT-A-CC-4-8-TH	Plant geography, ecology and evolution	4
	Core Course 8- BOT-A-CC-4-8-P	Plant geography, ecology and evolution Practical	2
	Core Course 9- BOT-A-CC-4-9-TH	Economic botany	4
	Core Course 9- BOT-A-CC-4-9-P	Economic botany Practical	2
	Core Course 10- BOT-A-CC-4-10-TH	Genetics	4
	Core Course 10- BOT-A-CC-4-10-P	Genetics Practical	2
	SEC B – BOT-A-SEC-B-4-3/ BOT-A-SEC-B-4-4	Only <b>ONE</b> paper to be selected	2
V	Core Course 11- BOT-A-CC-5-11-TH	Cell and molecular biology	4
	Core Course 11- BOT-A-CC-5-11-P	Cell and molecular biology Practical	2
	Core Course 12- BOT-A-CC-5-12-TH	Biochemistry	4
	Core Course 12- BOT-A-CC-5-12-P	Biochemistry Practical	2
	DSE A: BOT-A-DSE-A-5-1 & 2-TH & P	Only <b>ONE</b> paper to be selected from Group A	4 & 2
	DSE B: BOT-A-DSE-B-5-5 & 6-TH & P	Only <b>ONE</b> paper to be selected from Group B	4 & 2

VI	Core Course 13- BOT-A-CC-6-13-TH	Plant physiology	4
	Core Course 13- BOT-A-CC-6-13-P	Plant physiology practical	2
	Core Course 14- BOT-A-CC-6-14-TH	Plant metabolism	4
	Core Course 14- BOT-A-CC-6-14-P	Plant metabolism Practical	2
	DSE A: BOT-A-DSE-A-6-3&4-TH & P	Only <b>ONE</b> paper to be selected Group A	4 & 2
	DSE B: BOT-A-DSE-B-6-7&8 -TH & P	Only <b>ONE</b> paper to be selected Group B	4 & 2

# **C.U. B.Sc. BOTANY (HONOURS)**

## **SEMESTER I**

### **CORE COURSE 1**

#### **PHYCOLOGY AND MICROBIOLOGY (BOT-A-CC-1-1-TH)**

##### **THEORETICAL**

**(Credits 4, Lectures-60)**

#### **PHYCOLOGY**

##### **1. General account :**

1.1. Thallus organization, Structure of algal cell, 1.2. Ultrastructure of Plastids and Flagella, 1.3. Origin and evolution of sex, 1.4. Life cycle patterns, 1.5. Significant contributions of important phycologists (Fritsch, Smith, R. N. Singh, T.V. Desikachary, H.D. Kumar, M.O.P. Iyengar)

.....5 lectures

##### **2. Classification:**

2.1. Criteria and basis of Fritsch's classification  
2.2. Classification by Lee (2008) upto phylum with examples  
2.3. Salient features of Cyanobacteria, Rhodophyta, Chlorophyta , Charophyta, Bacillariophyta, Xanthophyta, Phaeophyta, Heterokantophyta.

.....5 lectures

##### **3. Cyanobacteria:**

3.1. Ultrastructure of cell, 3.2. Heterocyst - structure and function, 3.3. Ecology.

.....4 lectures

##### **4. Bacillariophyta:**

4.1. Cell structure, 4.2. Cell division, 4.3. Auxospore formation in Centrales and Pennales.

.....6 lectures

##### **5. Life History:**

5.1. *Chlamydomonas*, 5.2. *Oedogonium*, 5.3. *Chara*, 5.4. *Ectocarpus*, 5.5. *Polysiphonia*, 5.6. Evolutionary significance of *Prochloron*.

.....10 lectures

#### **MICROBIOLOGY**

##### **1. Virus:**

1.1. Discovery, 1.2. Plant virus- types, 1.3. Transmission and translocation of Plant virus, 1.4. TMV-

Physicochemical characteristics and Multiplication, 1.5. One step growth curve, 1.6. Lytic cycle (T4 phage) and Lysogenic cycle (Lambda phage), Significance of lysogeny, 1.7. Viroids and Prions.

.....10 lectures

## **2. Bacteria:**

2.1. Discovery, 2.2. Distinguishing features of Archaea and Bacteria, 2.3. Characteristics of some major groups: Proteobacteria (Enterobacteria), Firmicutes, Mollicutes, Actinobacteria, Spirochaetes, Chlamydiae, 2.4. Bacterial growth curve and generation time, 2.5. Flagella (ultrastructure) & Pili, 2.6. Cell wall – chemical structure and differences between Gram +ve & Gram – ve bacteria, 2.7. Bacterial genome and plasmid, 2.8. Endospore - formation, structure and function, 2.9. Genetic Recombination (a) Transformation – with special emphasis on Natural and Induced competence and DNA uptake, (b) Conjugation– F- factor,  $F^+ \times F^-$ , Hfr  $\times F^-$ , concept of F', chromosome mobilization, (c) Transduction– Generalised and specialized.

.....20 lectures

## **PRACTICAL- PHYCOLOGY AND MICROBIOLOGY (BOT-A-CC-1-1-P) (Credits 2)**

1. Work out: Algae, Bacterial staining
2. Identification with reasons: (Algae and bacteria)
3. Classroom performance (Lab notebook, submission and permanent slides)
4. Viva- voce

### **ALGAE**

1. Work out of the following algae with reproductive structure (Free hand drawing and drawing under drawing prism with magnification): *Oedogonium*, *Chara*, *Ectocarpus*.
2. Study of (a) Permanent slides : *Gloeotrichia*, *Volvox*, *Vaucheria*, *Coleochaete*, *Polysiphonia*, Centric and Pennate diatom; (b) Macroscopic specimens : *Laminaria*, *Sargassum*.

### **MICROBIOLOGY**

1. Preparation of bacterial media – (a) Nutrient agar and nutrient broth, (b) Preparation of slants and pouring Petri-plates.

2. Sub-culturing of bacterial culture.
3. Gram staining from bacterial culture.
4. Microscopic examination of bacteria from natural habitat (curd) by simple staining.

#### **FIELD WORK**

At least one local excursion to be conducted for study and collection of algae (only 5 from natural habitat) and another local excursion should be conducted to give an introductory idea about plant diversity (Collection not required).

#### **CLASSROOM PERFORMANCE**

1. Laboratory Note Book of each section must be signed by the respective teacher with date during practical classes.
2. Slides (permanent) prepared during practical classes.
3. Submission (5 algae collected from natural habitat and identified latter)

### **CORE COURSE 2 MYCOLOGY AND PHYTO-PATHOLOGY (BOT-A-CC-1-2-TH) THEORETICAL (Credits 4, Lectures 60)**

#### **MYCOLOGY**

##### **1. General Account:**

1.1. Hyphal forms, 1.2. Fungal spore forms and mode of liberation, 1.3. Sexual reproduction and degeneration of sex, 1.4. Parasexuality and sexual compatibility, 1.5. Life cycle patterns.

.....6 lectures

##### **2. Classification:**

2.1. Classification of Fungi (Ainsworth, 1973) upto sub-division with diagnostic characters and examples. 2.2. General characteristics of Myxomycota, Oomycota, Zygomycota, Ascomycota, Basidiomycota, Deuteromycota.

.....6 lectures

##### **3. Life history:**

3.1. *Synchytrium*, 3.2. *Rhizopus*, 3.3. *Ascobolus*, 3.4. *Agaricus*.

.....10 lectures



#### **4. Mycorrhiza:**

4.1. Types with salient features, 4.2. Role in Agriculture & Forestry.

.....4 lectures

#### **5. Lichen:**

5.1. Types, 6.2. Reproduction, 6.3. Economic and ecological importance

.....4 lectures

### **PHYTO-PATHOLOGY**

#### **1. Terms and Definitions :**

1.1. Disease concept, 1.2. Symptoms, 1.3. Etiology & causal complex, 1.4. Primary and secondary inocula, 1.5. Infection, 1.6. Pathogenecity and pathogenesis, 1.7. Necrotroph and Biotroph, 1.8. Koch's Postulates, 1.9. Endemic, Epidemic, Pandemic and Sporadic disease, 1.10. Disease triangle, 1.11. Disease cycle (monocyclic, polycyclic and polyetic).

.....6 lectures

#### **2. Host – Parasite Interaction:**

2.1. Mechanism of infection (Brief idea about Pre-penetration, Penetration and Post-penetration), 2.2. Pathotoxin (Definition, criteria and example), 2.3. Defense mechanism with special reference to Phytoalexin, 2.4. Resistance- Systemic acquired and Induced systemic.

.....6 lectures

#### **3. Plant Disease Management :**

3.1. Quarantine, 3.2. Chemical, 3.3. Biological, 3.4. Integrated.

.....8 lectures

#### **4. Symptoms , Causal organism, Disease cycle and Control measures of:**

4.1. Late blight of Potato, 4.2. Brown spot of rice, 4.3. Black stem rust of wheat, 4.4. Stem rot of jute.

.....10 lectures

### **PRACTICAL- MYCOLOGY AND PHYTO-PATHOLOGY (BOT-A-CC-1-2-P) (Credits 2)**

#### **MYCOLOGY**

1. Work out of the following fungi with reproductive structures (including microscopic measurement of Reproductive structures): *Rhizopus* (asexual), *Ascobolus*, *Agaricus*.

2. Study from permanent slides: Zygosporangium of *Rhizopus*, Conidia of *Fusarium*, Conidiophore of

*Penicillium*.

3. Morphological study of Fungi (fruit body of *Polyporus*, *Cyathus*), Lichens (fruticose and foliose).

### **PHYTO- PATHOLOGY**

1. Preparation of fungal media (PDA).

2. Sterilization process.

3. Isolation of pathogen from diseased leaf.

4. Inoculation of fruit and subculturing.

5. Identification : Pathological specimens of Brown spot of rice, Bacterial blight of rice , Loose smut of wheat, Stem rot of jute, Late blight of potato; Slides of uredial, telial, pycnial & aecial stages of *Puccinia graminis*.

### **FIELD WORK**

At least one local excursion to be conducted for study and collection of macrofungi (only 5).

### **CLASSROOM PERFORMANCE**

1. Laboratory Note Book of each section must be signed by the respective teacher with date during practical classes

2. Slides (permanent) prepared during practical classes.

3. Submission (5 Macro fungi)

## **SEMESTER- II**

### **CORE COURSE 3**

### **PLANT ANATOMY (BOT-A-CC-2-3-TH)**

**(Credits 4, Lectures 60)**

### **ANATOMY**

#### **1.Cell wall:**

1.1. Ultrastructure & Chemical constituents, 1.2. Plasmodesmata- ultrastructure, 1.3. Concept of Apoplast and Symplast, 1.4. Growth and Thickening of cell wall.

.....8 lectures

#### **2. Stomata:**

2.1. Types (Metcalfe and Chalk, Stebbins and Khush).

.....4 lectures

### **3. Stele:**

3.1 Leaf-trace and leaf-gap, 3.2. Stellar types & evolution

.....4 lectures

**4.Primary structure of stem and root-** Monocot and Dicot. Leaf- dorsiventral and isobilateral.

.....8 lectures

### **5. Secondary growth:**

5.1. Normal (intra- & extra-stelar), 5.2. Anomalous (stem of *Bignonia*, *Boerhavia*, *Tecoma*, *Dracaena* and root of *Tinospora*).

.....12 lectures

**6. Mechanical tissues and the Principles governing their distribution in plants.**

.....8 lectures

### **7. Developmental Anatomy:**

7.1. Organisation of shoot apex (Tunica–Corpus) and Root apex (Körper-Kappe), 7.2. Plastochrone.

.....8 lectures

### **8. Ecological Anatomy:**

Adaptive anatomical features of 8.1. Hydrophytes, 8.2. Xerophytes.

.....4 lectures

**9. Scope of plant anatomy: application in systematics, forensics and pharmacognosy.**

.....4 lectures

## **PRACTICAL- PLANT ANATOMY (BOT-A-CC-2-3-P)**

**(Credits 2)**

1.Workout on Plant Anatomy

2. Identification with reasons

3.Classroom performance: (Lab records, slides)

4. Viva

### **PLANT ANATOMY**

**1. Microscopic studies on:** Types of stomata, sclereids, raphides (*Colocasia*), cystolith (*Ficus* leaf) starch grains, aleurone grains, laticiferous ducts, oil glands.

2. Study of anatomical details through permanent slides/ temporary stained mounts- a) Root- Monocot and dicot, b) Stem- Monocot and dicot, c) Leaf- Monocot and dicot.
3. Study of anomalous secondary structure in stem of *Bignonia*, *Boerhaavia*, *Tecoma*, *Dracaena* and root of *Tinospora*
4. Study of adaptive anatomical features: Hydrophytes (*Nymphaea* – petiole) and Xerophytes (*Nerium* – leaf).

**CORE COURSE 4**  
**ARCHAEGONIATE (BOT-A-CC-2-4-TH)**  
**THEORITICAL**  
**(Credits 4, Lectures 60)**

**BRYOPHYTES**

**1. General Account :**

1.1. General characteristics and adaptations to land habit, 1.2. Classification (Strotler and Crandle Strotler, 2009) up to class with diagnostic characters and examples.

.....4 lectures

**2. Life History:** Gametophyte structure and Reproduction, Development and Structure of sporophyte, Spore dispersal in:

2.1. *Marchantia*, 2.2. *Anthoceros*, 2.3. *Funaria*.

.....6 lectures

**3. Phylogeny:**

3.1. Unifying features of archaegoniates; transition to land habit, 3.2. Origin of Alternation of Generations (Homologous and Antithetic theory), 3.3. Evolution of Sporophytes (Progressive and Regressive concept), 3.4. Origin of Bryophytes.

.....4 lectures

**4. Importance :**

Role of bryophytes in: 4.1. Plant succession, 4.2. Pollution Monitoring, 4.3. Economic importance of bryophytes with special reference to *Sphagnum*.

.....2 lectures

## PTERIDOPHYTES

### 1. General Account:

1.1. Colonisation and rise of early land plants, 1.2. Classification of vascular plants by Gifford & Foster (1989) upto division (Rhyniophyta to Filicophyta) with diagnostic characters and examples.

.....4 lectures

### 2. Life History:

Sporophyte structure, Reproduction and Structure of gametophyte in 2.1. *Psilotum*, 2.2. *Selaginella*, 2.3. *Equisetum*, 2.4. *Pteris*.

.....8 lectures

3. Telome concept and its significance in the origin of different groups of Pteridophytes.

.....4 lectures

4. Heterospory and Origin of Seed habit.

.....4 lectures

5. Economic importance as food, medicine and Agriculture.

.....2 lectures

## GYMNOSPERMS

1. Classification of vascular plants by Gifford & Foster (1989) upto division (Progymnospermophyta to Gnetophyta) with diagnostic characters and examples.

.....4 lectures

2. Progymnosperms :

Diagnostic characters of the group, 2.2. Vegetative and reproductive features of *Archeopteris*, 2.3. Phylogenetic importance.

.....6 lectures

3. Life History :

Distribution in India; Vegetative and Reproductive structure of sporophyte, Development of gametophyte in : 3.1. *Cycas* , 3.2. *Pinus* and 3.3. *Gnetum*.

.....8 lectures

4. Economic Importance with reference to Wood, Resins, Essential oils, and Drugs.

.....4 lectures

**PRACTICAL- ARCHAEGONIATE (BOT-A-CC-2-4-P)**  
**(Credits 2)**

1. Workout on Pteridophytes
2. Identification with reasons (Bryophytes, Pteridophytes and Gymnosperms)
3. Classroom performance: (Lab records, slides)
4. Field report
5. Viva

**BRYOPHYTES**

1. Morphological study of the plant body: Genera as mentioned in theoretical syllabus and *Riccia*, *Porella*.
2. Study from permanent slides : *Riccia* (V.S. of thallus with sporophyte), *Marchantia* (L.S. through gemma cup, antheridiophore , archegoniophore) , *Anthoceros* (L.S. of sporophyte) , *Funaria* (L.S. of capsule).

**PTERIDOPHYTES**

1. Morphological study of the sporophytic plant body: Genera as mentioned in the theoretical syllabus and *Lycopodium*, *Ophioglossum* and *Marsilea*.
2. Workout of the reproductive structures: *Selaginella*, *Equisetum*, *Pteris*.
3. Study from permanent slides: *Psilotum* (T.S. of synangium), *Lycopodium* (L.S. of strobilus), *Ophioglossum* (L.S. of spike), *Dryopteris* (gametophyte), *Marsilea* (L.S. of sporocarp).

**GYMNOSPERMS**

1. Morphological study: *Cycas* (microsporophyll and megasporophyll), *Pinus* (female and male cone), *Gnetum* (female and male cone).
2. Study from permanent slides: *Cycas* (L.S. of ovule), *Pinus* (L.S. of male and female cone), *Ginkgo* (L.S. of female strobilus), *Gnetum* (L.S. of male cone and ovule).

**FIELD STUDY**

Botanical excursion to familiarize the students with the natural habitats of these groups is desirable. No individual collection should be allowed. Students should submit only photographs in their field report.

**SEMESTER- III**  
**CORE COURSE-5**  
**PALAEOBOTANY AND PALYNOLOGY (BOT-A-CC-3-5-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

**PALAEOBOTANY & PALYNOLOGY**

**1. Geological time scale with dominant plant groups through ages.**

.....4 lectures

**2. Plant Fossil:**

2.1. Types: Body fossil (Micro- and Megafossils), Trace fossil, Chemical fossil, Index fossil, 2.2. Different modes of preservation (Schopf, 1975), 2.3. Conditions favouring fossilization, 2.4. Nomenclature and Reconstruction, 2.5. Principle of fossil dating (a brief idea), 2.6. Importance of fossil study.

.....12 lectures

**3. Fossil Pteridophytes:**

Structural features, Geological distribution and Evolutionary significance of 3.1. *Rhynia*, 3.2. *Lepidodendron* (Reconstructed), 3.3. *Calamites* (Reconstructed).

.....10 lectures

**4. Fossil gymnosperms:**

Structural features and Geological distribution of reconstructed genera: 4.1. *Lyginopteris*, 4.2. *Williamsonia*, 4.3. *Cordaites*.

.....10 lectures

**5. Indian Gondwana System** - Three fold division with major megafossil assemblages.

.....6 lectures

**6. Palynology:**

6.1. Spore and Pollen, 6.2. Pollen aperture types, 6.3. NPC classification (Erdtman). 6.4. Pollen wall- Sporopollenin, Stratification and Ornamentation (sculpturing).

.....10 lectures

**7. Applied Palynology:**

Basic concepts of: 7.1. Palaeopalynology, 7.2. Aeropalynology, 7.3. Forensic palynology, 7.4. Melissopalynology.

.....8 lectures

**PRACTICAL- PALAEOBOTANY AND PALYNOLOGY (BOT-A-CC-3-5-P)**  
**(Credits 2)**

1. Study from permanent preparations
2. Identification with reasons
3. Classroom performance: (Lab records)
4. Viva

**PALAEOBOTANY AND PALYNOLOGY**

1. Morphological study: *Ptilophyllum* and *Glossopteris* leaf fossils.
2. Study from permanent slides: T.S. of stem of *Rhynia*, *Lepidodendron*, *Calamites*, *Lyginopteris*, *Cordaites*.
3. Study of Pollen types (colpate, porate and colporate) from permanent slides.  
Slides may be prepared from specimens: Colpate (*Leonurus sibiricus*/ *Brassica* sp.), Porate (*Hibiscus rosa-sinensis*), Colporate (*Cassia sophera*/ *C. tora*).

**CLASSROOM PERFORMANCE**

1. Laboratory Note Book of each section must be signed by the respective teacher with date during practical classes.

**CORE COURSE- 6**  
**REPRODUCTIVE BIOLOGY OF ANGIOSPERMS (BOT-A-CC-3-6-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

**MORPHOLOGY OF ANGIOSPERMS**

1. Inflorescence types with examples.  
.....8 lectures
2. Flower, induction of flowering, flower development- genetic and molecular aspects.  
.....14 lectures
3. Fruits and seeds - types with examples.  
.....8 lectures



## **EMBRYOLOGY**

### **1. Pre-fertilisation changes :**

- 1.1. Microsporogenesis and Microgametogenesis, 1.2. Megasporogenesis and Megagametogenesis (monosporic, bisporic and tetrasporic).

.....6 lectures

### **2. Fertilisation:**

- 2.1. Pollen germination, 2.2. Pollen tube- growth, entry into ovule and discharge, 2.3. Double fertilization.

.....6 lectures

### **3. Post-fertilization changes :**

- 3.1. Embryogenesis in Capsella, 3.2. Development of Endosperm (3 types).

.....10 lectures

### **4. Apomixis & Polyembryony:**

- 4.1. Apomixis- Apospory and Apogamy, 4.2. Polyembryony- different types.

.....8 lectures

## **PRACTICAL- REPRODUCTIVE BIOLOGY OF ANGIOSPERMS (BOT-A-CC-3-6-P)**

**(Credits 2)**

1. Identification with reasons (Morphology)
2. Classroom performance: (Lab records)
3. Field Records (Field note book/ project work)
4. Viva

### **REPRODUCTIVE BIOLOGY OF ANGIOSPERMS**

1. Inflorescence types- study from fresh/ preserved specimens
2. Flowers- study of different types from fresh/ preserved specimens
3. Fruits- study from different types from fresh/preserved specimens
4. Study of ovules (permanent slides/ specimens/photographs)- types (anatropous, orthotropous, amphitropous and campylotropous)
5. Field study desirable
6. A project supported along with photographs taken during field study to be submitted giving comprehensive idea about different types of inflorescence, flowers and fruits.

### **CLASSROOM PERFORMANCE**

Same as above.

**CORE COURSE- 7**  
**PLANT SYSTEMATICS (BOT-A-CC-3-7-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

**TAXONOMY OF ANGIOSPERMS**

**1. Introduction:**

1.1. Components of Systematic: Nomenclature, Identification, Classification; 1.2. Taxonomy and its phases - Pioneer, Consolidation, Biosystematic and Encyclopaedic; alpha- and omega- taxonomy.

.....6 lectures

**2. Nomenclature:**

Type method, Publication, Rank of taxa, Rules of priority, Retention and rejection of names, Author Citation, Effective and valid publication, Elementary knowledge of ICN- Principles.

.....6 lectures

**3. Systems of classification:**

Broad outline of Bentham & Hooker (1862-1883), Cronquist (1988), Takhtajan (1991) - system of classification with merits and demerits. Brief reference of angiosperm phylogeny group (APG III) classification.

3.1. Systematics in Practice: Herbaria and Botanical Gardens – their role in teaching and research; important Herbaria and Botanical Gardens of India and world (3 each); 3.2. Dichotomous keys – indented and bracketed.

.....20 lectures

**4. Phenetics and Cladistics:**

Brief idea on Phenetics, Numerical taxonomy- methods and significance; Cladistics- construction of dendrogram and primary analysis; Monophyletic, polyphyletic and paraphyletic groups; Plesiomorphy and apomorphy.

.....8 lectures

**5. Data sources in Taxonomy:**

Supportive evidences from: 5.1. Phytochemistry, 5.2. Cytology, 5.3. Palynology and 5.4. Molecular biology data (Protein and Nucleic acid homology).

.....8 lectures

6. Diagnostic features, Systematic position (Bentham & Hooker and Cronquist), Economically important plants (parts used and uses) of the following families:

6.1. Monocotyledons: Alismataceae, Gramineae (Poaceae), Cyperaceae, Palmae (Arecaceae), Liliaceae, Musaceae, Zingiberaceae, Cannaceae, Orchidaceae.

6.2. Dicotyledons: Nymphaeaceae, Magnoliaceae, Leguminosae (subfamilies), Polygonaceae, Euphorbiaceae, Malvaceae, Umbelliferae (Apiaceae), Labiatae (Lamiaceae), Solanaceae, Scrophulariaceae, Acanthaceae, Rubiaceae, Cucurbitaceae, Compositae (Asteraceae).

.....12 lectures

### **PRACTICAL- PLANT SYSTEMATICS (BOT-A-CC-3-7-P)** **(Credits 2)**

1. Workout on Angiosperms
2. Spot Identification
3. Classroom performance: (Lab records)
4. Field Records (Field note book, Herbarium specimens)
5. Viva

#### **ANGIOSPERMS**

1. Work out, description, preparation of floral formula and floral diagram, identification up to genus with the help of suitable literature of wild plants and systematic position according to Bentham Hooker system of classification from the following families: Malvaceae, Fabaceae (Papilionaceae), Solanaceae, Scrophulariaceae, Acanthaceae, Labiatae (Lamiaceae), Rubiaceae.
2. Spot identification (Binomial, Family) of common wild plants from families included in the theoretical syllabus (list to be provided).

#### **FIELD WORK**

At least three excursions including one excursion to Acharya Jagadish Chandra Bose Indian Botanic Garden (Shibpur, Howrah) and Central National Herbarium (CNH).

#### **FIELD RECORDS**

1. Field Note Book (authenticated) with field notes on the plants of the area of excursion and

voucher specimen book.

**2. Herbarium specimen:** Preparation of 25 angiospermic specimens (identified with author citation, voucher number and arranged following Bentham & Hooker's system of classification) to be submitted during examination.

## **CLASSROOM PERFORMANCE**

Same as above.

**SEMESTER IV**  
**CORE COURSE-8**  
**PLANT GEOGRAPHY, ECOLOGY AND EVOLUTION (BOT-A-CC-4-8-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

### **PLANT GEOGRAPHY**

#### **1. Phytogeographical regions:**

1.1. Phytogeographical regions of India (Chatterjee 1960); 1.2. Dominant flora of Eastern Himalaya, Western Himalaya and Sunderban.

.....8 lectures

#### **2. Endemism:**

2.1 Endemic types and Factors; 2.2. Age & Area hypothesis and Epibiotic theory; 2.3. Endemism in Indian flora.

.....6 lectures

### **ECOLOGY**

#### **1. Preliminary idea on:**

1.1. Habitat and Niche, 1.2. Ecotone and edge-effect, 1.3. Microclimate, 1.4. Ecads, ecotype and ecoclines, 1.5. Carrying capacity.

.....4 lectures

#### **2. Community ecology:**

2.1. Community- Characteristics and diversity, 2.2. Ecological succession –Primary and secondary, Seral stages (with reference to Hydrosere), autogenic and allogenic succession.

.....6 lectures

3.1. Plant indicators (metallophytes); 3.2. Phytoremediation.

.....4 lectures

#### **4. Conservation of Biodiversity:**

4.1. Level of Biodiversity: genetic, species & ecosystem diversity, 4.2. Biodiversity hot spots- criteria,

Indian hotspots, 4.3. *In-situ* and *ex-situ* conservation, 4.4. Seed-banks, 4.5. Cryopreservation  
.....16 lectures

## **EVOLUTION**

1.1 Introduction, 1.2. Theories of evolution: Natural selection, Group selection, Neutral theory of molecular evolution, 1.3. Phyletic gradualism, Punctuated equilibrium and Stasis  
.....6 lectures

2.1 Brief idea on: Stabilizing directional, disruptive and sexual selection; Speciation: Sympatric and allopatric speciation; Coevolution, Adaptive radiation, Reproductive isolation  
.....4 lectures

3.1. Simplified phylogeny of bacteria, algae, fungi, bryophyte, pteridophyte and gymnosperm, 3.2. Phylogenetic tree.  
.....6 lectures

## **PRACTICAL- PLANT GEOGRAPHY, ECOLOGY AND EVOLUTION (BOT-A-CC-4-8-P) (Credits 2)**

1. Workout on ecological parameters
2. Classroom performance: (Lab records)
3. Field Records (Field note book of phytogeographical study and ecological study)
4. Viva

## **PLANT GEOGRAPHY**

1. Field visit- at least one long excursion at different phytogeographical region of India.
2. Study of local flora and submission of a project report highlighting phytogeographical characteristics of the region.

## **ECOLOGY**

1. Study of community structure by quadrat method and determination of (i) Minimal size of the quadrat, (ii) Frequency, density and abundance of components (to be done during excursion/ field visit).
2. Comparative anatomical studies of leaves from polluted and less polluted areas.
3. Measurement of dissolved O<sub>2</sub> by azide modification of Winkler's method.
4. Comparison of free CO<sub>2</sub> from different sources.

**CORE COURSE- 9**  
**ECONOMIC BOTANY (BOT-A-CC-4-9-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. Origin of cultivated crops: Concepts of centre of origin, their importance with reference to Vavilov's work. Examples of major plant introductions; crop domestication and loss of genetic diversity; evolution of new crops/ varieties, importance of germplasm diversity.  
.....6 lectures
2. Cereals: Rice and wheat (origin, morphology, processing and uses).  
.....6 lectures
3. Legumes: Origin, morphology and uses of gram and mung bean. Importance to man and environment.  
.....6 lectures
4. Sugar and starches: Morphology and processing of sugarcane, products and byproducts of sugarcane industry. Potato- morphology, propagation and uses.  
.....5 lectures
5. Spices: Listing of important spices, their family and part used.  
.....6 lectures
6. Beverages: Tea (morphology, processing and uses).  
.....5 lectures
7. Oil and fats: General description, classification, extraction, their uses and health implications of mustard, soybean, coconut (Botanical name, family and uses). Essential oils- general account, extraction methods, comparison with fatty oils and their uses.  
.....10 lectures
8. Drug-yielding plants: Therapeutic and habit forming drugs with special reference to Cinchona, Digitalis, Papavar, Cannabis and Tobacco (morphology, processing, uses and health hazards).  
.....8 lectures
9. Timber: general account with special reference to Sal and Teak.  
.....4 lectures
10. Fibers: Cotton and Jute (Morphology, extraction and uses).  
.....4 lectures

**PRACTICAL- ECONOMIC BOTANY (BOT-A-CC-4-9-P)**  
**(Credits 2)**

1. Workout, micro-chemical tests
2. Identification- T.S./L.S. of permanent slides

3. Classroom performance: (Lab records, permanent slides)
4. Field visit desirable to give an idea about cultivation of any crop (viz. rice, jute, mustard, tea, potato)
5. Field record of the visit, properly authenticated by escorting teacher

### **ECONOMIC BOTANY**

1. Cereals: Wheat (habit sketch, L.S./T.S. of grain, starch grains, micro-chemical tests); rice (habit sketch, study of paddy and grain, starch grains, micro-chemical tests)
2. Legume: Soybean, ground nut (habit, fruit, seed structure, micro-chemical tests)
3. Source of sugars and starches: Sugarcane (habit sketch; cane juice- micro-chemical tests); potato (habit sketch, tuber morphology, T.S. of tuber to show localization of starch grains, W.M. of starch grains, micro-chemical tests.
4. Tea- tea leaves, tests for tannin
5. Mustard- plant specimen, seeds, tests for fat in crushed seeds
6. Habit sketch of *Digitalis*, *Papaver* and *Cannabis*.
7. Sal, Teak- section of young stem.
8. Jute- specimen, transverse section of stem, tests for lignin on T.S. of stem and study of fibre following maceration technique.

**CORE COURSE 10**  
**GENETICS (BOT-A-CC-4-10-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. Introduction: Mendelian genetics and its extension

.....6 lectures

2. Linkage, Crossing over and Gene Mapping:

2.1. Complete and incomplete linkage (example), linked gene does not assort independently (example), linkage group, 2.2. Crossing over, crossing over produces recombination (example), detection of crossing over (McClintock's experiment), and 2.3. Molecular mechanism of crossing over (Holliday model), 2.4. Gene mapping with three point test cross, detection of middle gene in three point test cross, calculation of recombination frequencies, 2.5. Co-efficient of coincidence and

interference, mapping function, 2.6. Problems on gene mapping, 2.7. Molecular mapping – ISH, FISH (brief idea).

.....16 lectures

**3. Epistasis and Polygenic inheritance in plants.**

.....4 lectures

**4. Aneuploidy and Polyploidy:** Types, examples, meiotic behaviour and importance of: 4.1. Aneuploidy, 4.2. Polyploidy, 4.3. Speciation and evolution through polyploidy.

.....8 lectures

**5. Chromosomal aberration:** Types and meiotic behaviour of: 5.1. Deletion, 5.2. Duplication, 5.3. Translocation, and 5.4. Inversion.

.....6 lectures

**6. Mutation :**

6.1. Point mutation-Transition, Transversion and Frame shift mutation, 6.2. Molecular mechanisms (tautomerisation, alkylation, deamination, base analogue incorporation, dimerisation), 6.3. DNA repair (brief idea).

.....8 lectures

**7. Structural organisation of Gene:**

7.1. One Gene—one polypeptide concept, 7.2. Split gene, 7.3. Overlapping gene, 7.4. Repetitive DNA-tandem and interspersed, 7.5. Transposon (Ac-Ds system), 7.6. Homoeotic gene in plants (ABCE Quartet model of flowering).

.....12 lectures

### **PRACTICAL- GENETICS (BOT-A-CC-4-10-P)**

**(Credits 2)**

1. Genetics
2. Identification
3. Classroom performance (Laboratory Records and slides)
- 4 Viva- voce

### **GENETICS**

- 1. Introduction to chromosome preparation:** Pre-treatment, Fixation, Staining, Squash and Smear preparation, Preparation of permanent slides.
- 2. Determination of mitotic index and frequency of different mitotic stages in pre-fixed root tips of *Allium cepa*.**
- 3. Study of mitotic chromosome:** Metaphase chromosome preparation, free hand drawing under high power objective, drawing with drawing prism under oil immersion lens, determination of  $2n$  number, and comment on chromosome morphology of the following specimens from root tips:



*Allium cepa*, *Aloe vera*, *Lens esculenta*.

4. Study of chromosomal aberrations developed due to exposure to any two pollutants/ pesticides etc.
5. Study of meiotic chromosome: Smear preparation of meiotic cells, identification of different stages and free hand drawing of the following specimens from flower buds: *Allium cepa* and *Setcreasea* sp.
6. Identification from permanent slides : Meiosis – (i) normal stages (ii) abnormal stages – laggard, anaphase bridge, ring chromosome (*Rhoeo discolor*); Mitosis – (i) normal stages, (ii) abnormal stages- early separation, late separation, multipolarity, sticky bridge, laggard, fragmentation, (ii) pollen mitosis.

## **SEMESTER V**

### **CORE COURSE- 11**

#### **CELL AND MOLECULAR BIOLOGY (BOT-A-CC-5-11-TH)**

#### **THEORETICAL**

**(Credits 4, Lectures 60)**

### **CELL BIOLOGY**

#### **1. Origin and Evolution of Cells:**

1.1. Evolution of nucleic acid (from PNA to DNA), Concept of RNA world, Ribozymes, First cell, 1.2. Origin of eukaryotic cell (endosymbiotic theory), 1.3. Small RNA- riboswitch, RNA interference, si RNA, mi RNA- brief idea, 1.4. Organellar DNA (cp- and mt- DNA).

.....6 lectures

#### **2. Nucleus and Chromosome:**

2.1. Nuclear envelope, Nuclear lamina and Nuclear pore complex, 2.2. Nucleolus-ultrastructure and ribosome biogenesis, 2.3. Chromatin ultrastructure and DNA packaging in eukaryotic chromosome, 2.4. Centromere: types, structure and function.

.....6 lectures

#### **3. Cell cycle and its regulation:**

3.1. Kinetochore and spindle apparatus-structural organization and functions, 3.2. Microtubules- structure, organization and function, 3.3. Mechanism of cell cycle control in Yeast (checkpoints and role of MPF), Apoptosis (Brief idea).

.....6 lectures

### **MOLECULAR BIOLOGY**

## **1. DNA Replication, Transcription and Translation (Prokaryotes & Eukaryotes):**

1.1. Central Dogma, 1.2. Semiconservative DNA replication – mechanism, enzymes involved in DNA replication- DNA polymerase, DNA gyrase, Helicase, Ligase, primase and other accessory proteins, 1.3. Eukaryotic replication with special reference to replication licensing factor, assembly of new nucleosome, replication at the end chromosome telomere, telomerase concept, 1.4. Fidelity of DNA replication- prokaryote: nucleotide selection, proof reading, mismatch repair; eukaryote: through selection of error prone DNA polymerase, 1.5. Transcription, 1.6 RNA processing, 1.7. Aminoacylation of tRNA, 1.8. Translation.

.....20 lectures

## **2. Gene Regulation:**

2.1 Concept of Lac-operon, 2.2. Positive and negative control.

.....4 lectures

## **3. Genetic Code:**

3.1 Properties-evidences & exceptions, 3.2. Decipherance of codon (Binding technique).

.....4 lectures

## **4. Recombinant DNA Technology:**

4.1. Restriction endonuclease, - types and roles, 4.2. Vector (plasmid pBR 322), 4.3. Marker gene, 4.4. Steps of cloning technique, 4.5. PCR and its application, 4.6. Genomic DNA and cDNA library.

.....10 lectures

5. Development and causes of Cancer (in general and brief), tumor suppressor gene and oncogene.

.....4 lectures

## **PRACTICAL- CELL BIOLOGY (BOT-A-CC-5-11-P) (Credits 2)**

1. Work out
2. Identification
3. Classroom performance (Laboratory Records and slides)
4. Preparation of models/charts
5. Viva-voce

## **CELL BIOLOGY**

1. Study of plant cell structure with the help of epidermal peel mount of Onion/*Rhoeo*/*Crinum*
2. Measurement of cell size by the technique of micrometry.
3. Counting cells per unit volume with the help of haemocytometer (Yeast/pollen grains)
4. Cytochemical staining of DNA- Pyronine-methyl green staining.

5. Estimation of DNA content through DPA staining.
6. Estimation of RNA through orcinol method.
7. Study of nucleolus through hematoxylin/ orcin staining and determination of nucleolar frequency.
8. Preparation of models/ charts: rolling circle, theta replication, semi-discontinuous replication, prokaryotic RNA polymerase and eukaryotic RNA polymerase II, assembly of spliceosome machinery, splicing mechanism in group I and group II introns, ribozyme and alternative splicing.

**CORE COURSE- 12**  
**BIOCHEMISTRY (BOT-A-CC-5-12-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

**1. Biochemical Foundations:**

1.1. Covalent and non-covalent bonds; hydrogen bond; Van der Waal's forces; 1.2. Structure and properties of water; 1.3. pH and buffer ( inorganic and organic ); 1.4. Henderson-Hasselbalch equation; 1.5. Isoelectric point.

.....6 lectures

**2. Molecules of life:**

2.1. Nucleic Acids – structure of nucleosides and nucleotides ; oligo- and poly nucleotides , B & Z form of DNA, RNA- different forms; nucleotide derivatives (ATP, NADP), 2.2. Proteins – structure and classification of amino acids; primary, secondary, tertiary and quaternary structure of proteins; 2.3. Carbohydrates - structure of mono-, di- and polysaccharide; stereoisomers, enantiomers and epimers; 2.4. Lipids - structure of simple lipid and compound lipid (phospholipids and glycolipids), fatty acids- saturated and unsaturated.

.....24 lectures

**3. Energy flow and enzymology:**

3.1. Bioenergetics-Thermodynamic principles; free energy; energy rich bonds- phosphoryl group transfer and ATP; redox potentials and Biological redox reactions, 3.2. Enzymes – classification and nomenclature (IUBMB); Co-factors and co-enzymes; isozymes, 3.3. Mechanism of enzyme action; enzyme inhibition; 3.4. Enzyme kinetics (Michaelis- Menten equation) and simple problems.

.....18 lectures

**4. Cell membrane:**

4.1. Membrane chemistry, 4.2. Membrane transport (uniport, symport, antiport), mechanism of ion

uptake.

.....6 lectures

**5. Phosphorylation:** ATP Synthesis- Chemiosmotic model, Oxidative and Photophosphorylation- Mechanism and differences.

.....6 lectures

**PRACTICAL- BIOCHEMISTRY (BOT-A-CC-5-12-P)**  
**(Credits 2)**

1. Workout on Plant Biochemistry (Quantitative & Qualitative)
2. Classroom performance (Laboratory Records and slides)
3. Viva

**PLANT BIOCHEMISTRY**

**Qualitative:**

1. Detection of organic acids: citric, tartaric, oxalic and malic from laboratory samples.
2. Detection of carbohydrate and protein from plant samples.
3. Detection of the nature of carbohydrate – glucose, fructose , sucrose and starch from laboratory samples.
4. Detection of Ca, Mg, Fe, S from plant ash sample.

**Quantitative:**

1. Preparation of solutions and buffers.
2. Estimation of amino-nitrogen by formol titration method (glycine) .
3. Estimation of glucose by Benedicts quantitative reagent.
4. Estimation of titratable acidity from lemon.
5. Estimation of catalase activity in plant samples and effect of substrate, enzyme concentration and pH on enzyme activity.
6. Estimation of urease activity in plant samples.
7. Colorimetric estimation of protein by Folin phenol reagent.

**SEMESTER VI**  
**CORE COURSE-13**  
**PLANT PHYSIOLOGY (BOT-A-CC-6-13-TH)**  
**THEORETICAL (Credits 4, Lectures 60)**

**1. Plant-water relations:**

1.1 Concept of water potential, components of water potential in plant system, 1.2. Soil-plant-Atmosphere continuum concept, Cavitation in xylem and embolism, 1.3. Stomatal physiology-mechanism of opening and closing, Role of carbon di-oxide, potassium ion, abscisic acid and blue light in stomatal movement, Antitranspirants.

.....6 lectures

**2. Mineral nutrition:** essential and beneficial elements, macro- and micronutrients, methods of study and use of nutrient solutions, criteria for essentiality, mineral deficiency symptoms, roles of essential elements, chelating agents.

.....6 lectures

**3. Organic Translocation:**

3.1. Phloem sap, P-protein, 3.2. Phloem loading and unloading, 3.3. Mass-flow (pressure flow) hypothesis and its critical evaluation.

.....6 lectures

**4. Plant Growth Regulators:**

4.1. Physiological roles of Auxin, Gibberellin, Cytokinin, Abscisic acid, Ethylene, 4.2. Chemical nature – IAA, GA<sub>3</sub>, Kinetin, 4.3. Biosynthesis and bioassay of IAA, 4.4. Mode of action of IAA, 4.5. Brassinosteroids and Polyamines as PGRs (brief idea).

.....18 lectures

**5. Photomorphogenesis:**

5.1. Concept of photomorphogenesis, 5.2. Photoperiodism and plant types, 5.3. Perception of photoperiodic stimulus, 5.4. Critical day length, concept of light monitoring, 5.5. Phytochrome, cryptochrome and phototropins- chemical nature and role in photomorphogenesis, 5.6. Role of GA in flowering, 5.7. Vernalisation – role of low temperature in flowering, 5.8. Concept of biological clock and biorhythm.

.....12 lectures

**6. Seed dormancy:** 6.1. Types, Causes and Methods of breaking seed dormancy, 6.2. Biochemistry of seed germination.

.....6 lectures

**7. Physiology of Senescence and Ageing.**

.....6 lectures

**PRACTICAL- PLANT PHYSIOLOGY (BOT-A-CC-6-13-P)**  
**(Credits 2)**

1. Plant Physiology
2. Classroom performance (Laboratory records)
3. Viva- voce

**PLANT PHYSIOLOGY**

1. Determination of loss of water per stoma per hour.
2. Relationship between transpiration and evaporation.
3. Measurement of osmotic pressure of storage tissue by weighing method.
4. Measurement of osmotic pressure of *Rhoeo* leaf by plasmolytic method.
5. Effect of temperature on absorption of water by storage tissue and determination of  $Q_{10}$ .
6. Rate of imbibition of water by starchy, proteinaceous and fatty seeds and effect of seed coat.
7. To study the phenomenon of seed germination (effect of light).
8. To study the induction of amylase activity in germinating grains.
9. To study the effect of different concentrations of IAA on *Avena* coleoptile elongation (IAA bioassay)

**CORE COURSE 14**  
**PLANT METABOLISM (BOT-A-CC-6-14-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. Concept of metabolism: Introduction, Anabolic and catabolic metabolic pathways, regulation of metabolism, role of regulatory enzymes (allosteric, covalent modulation and isozymes)

.....4 lectures

**2. Photosynthesis:**

2.1. Chemical structure of chlorophyll a and b, absorption and action spectra, biological significance of carotenoid pigments, 2.2. Red drop and Emerson effect, Components of photosystems (light harvesting complex), photochemical reaction centres, Cyclic and noncyclic electron transport, Water splitting mechanism, 2.3. Calvin cycle – Biochemical reactions & stoichiometry, 2.4. HSK Pathway– three variants of the pathway, 2.5. Photosynthetic efficiency of  $C_3$  and  $C_4$  plants and crop

productivity, 2.6. Photorespiration – mechanism and significance, 2.7. Crassulacean Acid Metabolism– mechanism and ecological significance.

.....16 lectures

### **3. Respiration:**

3.1. EMP pathway, regulation and its anabolic role, 3.2. Conversion of Pyruvic acid to Acetyl CoA, 3.3. TCA-cycle and its amphibolic role, 3.4. Oxidative pentose phosphate pathway and its significance, 3.5. Mitochondrial electron transport system, uncouplers, 3.6. Oxidation of cytosolic  $\text{NADH} + \text{H}^+$ , 3.7. Stoichiometry of glucose oxidation (aerobic).

.....12 lectures

### **4. Nitrogen Metabolism:**

4.1. Assimilation of nitrate by plants, 4.2. Biochemistry of dinitrogen fixation in Rhizobium, 4.3. General principle of amino acid biosynthesis (including GS and GOGAT enzyme system).

.....10 lectures

### **5. Lipid metabolism:**

5.1. synthesis and breakdown of triglycerides,  $\beta$ -oxidation, glyoxalate cycle, gluconeogenesis and its role in mobilization of the lipids during seed germinations,  $\alpha$ - oxidation.

.....8 lectures

6. Mechanism of signal transduction: receptor-ligand interactions, second messenger concept, calcium-calmodulin, G protein, MAP-kinase cascade.

.....10 lectures

## **PRACTICAL- PLANT METABOLISM (BOT-A-CC-6-14-P)** **(Credits 2)**

1. Workout on Plant metabolism
2. Classroom performance (Laboratory Records)
3. Viva

### **PLANT METABOLISM**

1. A basic idea of chromatography: Principle, paper chromatography and column chromatography; demonstration of column chromatography.
2. Separation of plastidial pigments by solvent and paper chromatography.
3. Estimation of total chlorophyll content from different chronologically aged leaves (young, mature and senescence) by Arnon method.

4. Effect of  $\text{HCO}_3$  concentration on oxygen evolution during photosynthesis in an aquatic plant and to find out the optimum and toxic concentration (either by volume measurement or bubble counting).
5. Measurement of oxygen uptake by respiring tissue (per g/hr.)
- 6.. Determination of the RQ of germinating seeds.
7. Test of seed viability by TTC method.

### **SKILL ENHANCEMENT COURSE- ELECTIVE (SEC)**

#### **SEC-A**

#### **APPLIED PHYCOLOGY, MYCOLOGY AND MICROBIOLOGY (BOT-A-SEC-A-3-1)**

##### **THEORETICAL**

**(Credits 2, Lectures 30)**

#### **APPLIED PHYCOLOGY**

1. Algae as food and source of phycocolloid (Agar-agar, Algin, Carrageenan), 2. Diatomite, 3. Algal toxin, 4. Algal Biotechnology – potential of microalgae for SCP,  $\beta$ -carotene, Biodiesel, bioplastics from algae.

.....10 lectures

#### **APPLIED MYCOLOGY**

1. Fungi as food, 2. Cheese and Ethanol- Industrial production (brief outline), 3. Fungal sources and uses of Enzyme (Cellulase), Amino acid (Tryptophan), Vitamin (Riboflavin), Antibiotic (Griseofulvin), Pharmaceuticals (Cyclosporin-A). 4. Aflatoxin

.....10 lectures

#### **APPLIED MICROBIOLOGY**

1. Industrial Production of Vinegar and Streptomycin (brief outline), 2. Microbial sources and uses of Enzyme (Amylase, Protease), Amino acid (Glutamic acid, Lysine), Polysaccharides (Dextran), 3. Use of microbes as Biofertilizer and Biopesticides, 3.4. Use of microbes in mineral processing.

.....10 lectures

### **BIOFERTILIZERS (BOT-A-SEC-A-3-2)**

#### **THEORETICAL**

**(Credits 2, Lectures 30)**

1. General account about the microbes used as biofertilizers- *Rhizobium*- isolation, identification, mass multiplication, carrier based inoculants, actinorrhizal symbiosis.
2. *Azospirillum*: isolation and mass multiplication- carrier based inoculants, associative effect of different microorganisms.

.....4 lectures

.....4 lectures



3. **Azotobacter:** classification, characteristics- crop response to *Azetobacter* inoculants, maintenance and mass multiplication.  
.....4 lectures
4. Cyanobacteria (Blue green algae), *Azolla* and *Anabaena azollae* association, nitrogen fixation. Factors affecting growth, blue green algae and *Azolla* in rice cultivation.  
.....4 lectures
5. *Mycorrhizal* association, types of mycorrhizal association, phosphorus nutrition, growth and yield- colonisation of VAM – isolation and inoculum production of VAM and its influence on growth and yield of crop plants.  
.....8 lectures
6. **Organic farming-** green manuring and organic fertilizers, recycling of biodegradable municipal, agricultural and industrial wastes- biocompost making methods, types and methods of vermicomposting- field application.  
.....6 lectures

**SEC-B**  
**PLANT BREEDING (BOT-A-SEC-B-4-3)**  
**THEORITICAL**  
**(Credits 2, Lectures 30)**

1. **Plant breeding:** introduction and objectives, breeding systems- modes of reproduction in crop plants, important achievements and undesirable consequence of plant breeding.  
.....4 lectures
2. **Methods of crop improvement:** Introduction- centres of origin and domestication of crop plants, plant genetics resources; acclimatization, selection methods- for self pollination, cross pollinated and vegetatively propagated plants, hybridization- for self, cross and vegetatively propagated plants, procedure, advantages and limitations.  
.....6 lectures
3. Maintenance of germplasm, 3.1. Mass selections and Pure line selection, 3.2. Back cross method.  
.....6 lectures
4. Heterosis and hybrid seed production, 4.1. Male sterility and its use in plant breeding.  
.....2 lectures
5. Inbreeding and inbreeding depression, effect of outcrossing- a very brief idea.  
.....4 lectures
6. Molecular Breeding (use of DNA markers in plant breeding).  
.....2 lectures
7. Role of mutations, polyploidy, distant hybridization and role of biotechnology in crop improvements.  
.....6 lectures

## MUSHROOM CULTURE TECHNOLOGY (BOT-A-SEC-B-4-4)

### THEORETICAL

(Credits 2, Lecture 30)

1. Introduction, nutritional and medicinal value of edible mushrooms; poisonous mushrooms, types of edible mushrooms available in India- *Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*.

.....5 lectures

2. **Cultivation technology:** infrastructure: substrates (locally available), polythene bags, vessels, inoculation hook, inoculation loop, low cost stoves, sieves, culture racks, mushroom unit (thatched house), water sprayer, tray, small polythene bag. Pure culture: medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation- paddy straw, sugarcane trash, maize straw, banana leaves,. Factors affecting the mushroom bed preparation- low cost technology, composting technology in mushroom production.

.....12 lectures

3. **Storage and nutrition:** short term storage (Refrigeration- upto 24 hours), long term storage (canning, pickles, papads), drying, storage in salt solutions. Nutrition- proteins- amino acids, mineral elements nutrition- carbohydrates, crude fibre content- vitamins.

.....8 lectures

4. **Food preparation:** type of foods prepared from mushroom. Research centres- National level and regional level. Cost benefit ratio- marketing in India and abroad. Export value.

.....5 lectures

## DISCIPLINE SPECIFIC ELECTIVE COURSES

### DSE-A

#### BIOSTATISTICS (BOT-A-DSE-A-5-1-TH)

### THEORETICAL

(Credits 4, Lectures 60)

1. **Biostatistics:** Definition, statistical methods, basic principles, variables- measurements, functions, limitations and uses of statistics.

.....12 lectures

2. **Biometry:** Data, Sample, Population, Random sampling, Frequency distribution- definition only.

.....12 lectures

3. **Central tendency**– Arithmetic Mean, Mode and Median; Measurement of dispersion–

Coefficient of variation, Standard Deviation, Standard error of Mean.

.....10 lectures

- 4. Test of significance:** chi- square test for goodness of fit.

.....6 lectures

- 5. Probability-** multiplicative and additive rules of probability: application and importance.

.....6 lectures

- 6. Measurement of gene frequency:** Hardy-Weinberg equilibrium- conditions applied for its implications (simple problems to calculate genotypic and allelic frequencies).

.....14 lectures

**PRACTICAL- BIOSTATISTICS (BOT-A-DSE-A-5-1-P)**  
**(Credits 2)**

1. Workout
2. Classroom performance (Laboratory Records)
3. Viva

**BIOSTATISTICS**

1. Univariate analysis of statistical data: Statistical tables, mean, mode, median, standard deviation and standard error (using seedling population / leaflet size).
2. Calculation of correlation coefficient values and finding out the probability.
3. Determination of goodness of fit in Mendellian and modified mono-and dihybrid ratios (3:1, 1:1, 9:3:3:1, 1:1:1:1, 9:7, 13:3, 15:1) by Chi-square analysis and comment on the nature of inheritance.
4. Calculation of 'F' value and finding out the probability value for the F value
5. Basic idea of computer programme for statistical analysis of correlation coefficient, 't' test, standard error, standard deviation.

**INDUSTRIAL AND ENVIRONMENTAL MICROBIOLOGY (BOT-A-DSE-A-5-2-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. Scope of microbes in industry and environment.  
.....6 lectures
2. Bioreactors/ Fermenters and fermentation process: solid- state and liquid-state (stationary and submerged) fermentations; batch and continuous fermentations. Components of a typical

bioreactors, types of bioreactors- laboratory, pilot scale and production fermenters. Constantly stirred fermenter, tower fermenter, fixed bed and fluidized bed bioreactors and air- lift Fermenter.

.....12 lectures

3. Microbial production of industrial products: microorganisms involved, media, fermentation conditions, down stream processing and uses; filtration, centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration, liophilisation, spray drying, hands on microbial fermentations for the production and estimation of enzymes amylase or lipase activity, organic acids (citric or glutamic acid), alcohol (ethanol) and antibiotic (Penicillin).

.....12 lectures

4. Microbial enzymes of industrial interest and enzyme immobilization: microorganisms for industrial applications. Methods of immobilization, advantages and applications of immobilization, large scale application of immobilized enzymes (glucose isomerase and penicillin acylase).

.....8 lectures

5. Microbes and quality of environment: distribution of microbes in air, isolation of microorganisms from soil, air and water.

.....8 lectures

6. Microbial flora of water: water pollution, role of microbes in sewage and domestic waste water treatment systems. Determination of BOD, COD of water samples. Microorganisms as indicators of water quality, check coliform and fecal coliform in water samples.

.....8 lectures

7. Microbes in agriculture and remediation of contaminated soils: biological fixation, mycorrhizae, bioremediation of contaminated soils, isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.

.....8 lectures

### **PRACTICAL- INDUSTRIAL AND ENVIRONMENTAL MICROBIOLOGY (BOT-A-DSE-A-5-2-P)** **(Credits 2)**

1. Workout
2. Classroom performance (Laboratory Records)
3. Viva

### **INDUSTRIAL AND ENVIRONMENTAL MICROBIOLOGY**

1. Principals and functioning of instruments in microbiology laboratory
2. Hands on sterilization techniques and preparation of culture media.
3. Preparation of slant, stab and pouring petriplate.

4. A visit to any educational institute/ industry to see an industrial fermenter, and other downstream processing operations.

**MEDICINAL AND ETHNOBOTANY (BOT-A-DSE-A-6-3-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

**1. Medicinal botany:** History, scope and importance of medicinal plant, a brief idea about indigenous medicinal sciences- ayurveda, siddha and unani. Polyherbal formulations.

.....14 lectures

**2. Pharmacognosy-** General account :

2.1 Pharmacognosy and its importance in modern medicine, 2.2 Crude drugs, 2.3 Classification of drugs- chemical and pharmacological, 2.4 Drug evaluation– organoleptic, microscopic, chemical, physical and biological, 2.5. Major pharmacological groups of plant drugs and their uses.

.....12 lectures

**3. Secondary metabolites:**

3.1 Definition of secondary metabolites and difference with primary metabolites , 3.2 Interrelationship of basic metabolic pathways with secondary metabolite biosynthesis (outlines only), 3.3 Major types–terpenoids, phenolics, flavonoids, alkaloids and their protective action against pathogenic microbes and herbivores.

.....14 lectures

**4. Pharmacologically active constituents:**

Source plants (one example) parts used and uses of: 3.1 Steroids (Solasodin, Diosgenin, Digitoxin), 3.2 Tannin (Catechin), 3.3 Resins (Gingerol, Curcuminoids), 3.4 Alkaloids (Quinine, Atropine. Pilocarpine, Strychnine, Reserpine, Vinblastine), 3.5. Phenols (Sennocide and Capsaicin).

.....4 lectures

**5. Ethnobotany and folk medicine:** Definition, methods of study, application, Indian scenario, national interacts, Palaeo-ethnobotany, folk medicines in ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India, application of natural products to certain diseases- Jaudice, cardiac, infertility, diabetics, blood pressure and skin diseases.

.....16 lectures

**PRACTICAL- MEDICINAL AND ETHNOBOTANY (BOT-A-DSE-A-6-3-P)**  
**(Credits 2)**

1. Workout and chemical tests

2. Classroom performance (Laboratory Records)
3. Viva

### **MEDICINAL AND ETHNOBOTANY**

1. Chemical tests for (a) Tannin (*Camellia sinensis* / *Terminalia chebula* ), (b) Alkaloid ( *Catharanthus roseus*) .
2. Powder microscopy – *Zingiber* and *Holarrhena* .
3. Histochemical tests of (a) Curcumin (*Curcuma longa*), (b) Starch in non-lignified vessel (*Zingiber*), (c) Alkaloid  
(stem of *Catharanthus* and bark of *Holarrhena* ).

### **STRESS BIOLOGY (BOT-A-DSE-A-6-4-TH)**

#### **THEORETICAL**

**(Credits 4, Lectures 60)**

1. Plant stress- definition. Acclimation and adaptation.  
.....2 lectures
2. Environmental factors- water stress, salinity stress and temperature stress- plant response. Pathogenesis- related (PR) proteins, systemic acquired resistance; mediation of insect and disease resistance by jasmonates.  
.....20 lectures
3. Stress sensing mechanism in plants: calcium modulation, phospholipid signaling.  
.....20 lectures
4. Developmental and physiological mechanisms that protect plants against environmental stress: adaptation of plants, changes in root-shoot ratios, aerenchyma development; osmotic adjustment, compatible solute production.  
.....12 lectures
5. Reactive oxygen species- production and scavenging mechanism.  
.....6 lectures

### **PRACTICAL- STRESS BIOLOGY (BOT-A-DSE-A-6-4-P)**

**(Credits 2)**

1. Workout
2. Classroom performance (Laboratory Records)
3. Viva

## **STRESS BIOLOGY**

1. Quantitative estimation of peroxidase activity in the seedlings in the absence and presence of salt stress.
2. Superoxide dismutase activity in the absence and presence of stress.
3. Catalase activity in the presence and absence of stress.
4. Comparative study of plants/seedlings subjected to different degree of stress/ pollutants.
5. To study the effect of stress (salt/ water/ heavy metal) on seed germination and seedling growth (any commonly available specimen)

### **DSE-B**

#### **PLANT BIOTECHNOLOGY (BOT-A-DSE-B-5-5-TH)**

#### **THEORETICAL**

**(Credits 4, Lectures 60)**

#### **1. Plant tissue culture –Introduction:**

- 1.1. Basic concept and milestones, 1.2. Cellular totipotency, 1.3. Tissue culture media, 1.4. Aseptic manipulation, 1.5. Cyto-differentiation and dedifferentiation.

.....10 lectures

#### **2. Callus culture:**

- 2.1. Callus induction, maintenance and application, 2.2. Suspension culture- introductory idea.

.....6 lectures

#### **3. Plant regeneration:**

- 3.1. Organogenesis (direct and indirect), 3.2. Somatic embryogenesis, 3.3. Significance of organogenesis and somatic embryogenesis, 3.4. Artificial seed.

.....8 lectures

#### **4. Haploid Culture:**

- 4.1. Anther and Pollen culture methods, 4.2. Applications.

.....6 lectures

#### **5. Protoplast Culture:**

- 5.1. Protoplast isolation and culture, 5.2. Protoplast fusion (somatic hybridization), 5.3. Significance.

.....6 lectures

#### **6. Plant Genetic Engineering:**

- 6.1. Brief concept of different gene transfer methods, special emphasis on *Agrobacterium* mediated gene transfer, Role of Reporter gene, 6.2. Achievements in crop biotechnology,

environment and industry (suitable example)- pest resistant plants (BT cotton), herbicide resistance, disease and stress tolerance, transgenic crop with improved quality (flavr tomato, golden rice), role of transgenic in population degradation (super-bug), leaching of minerals, production of industrial enzymes, oil, edible vaccine.

.....24 lectures

**PRACTICAL- PLANT BIOTECHNOLOGY (BOT-A-DSE-B-5-5-P)**  
**(Credits 2)**

1. Field report on a visit to a tissue culture lab.
2. Classroom performance (Laboratory Records, charts/ models)
3. Viva

**PLANT BIOTECHNOLOGY**

1. Familiarization of basic equipments in plant tissue culture
2. Study through photographs/ charts/ models of anther culture, somatic embryogenesis, endosperm and embryo culture, micropropagation.
3. Preparation of basal media. Sterilization techniques.
4. Demonstration of any tissue culture technique during visit in a plant tissue culture lab.

**DSE B**

**HORTICULTURAL PRACTICES AND POST- HARVEST TECHNOLOGY (BOT-A-DSE-B-5-6-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. **Horticulture** –scope, importance and branches. Role in rural economy and employment generation; importance in food and nutritional security; urban horticulture and ecotourism.

.....4 lectures

2. **Ornamental plants:** types, classifications (annuals, perennials, climbers and trees), identification and salient features of some ornamental plants (rose, marigold, gladiolus, carnations, orchids, poppies, gerberas, tuberose, sages, cacti and succulants). Ornamental flowering trees (Indian laburnum, gulmohor, jacaranda, Lagerostoemia, fishtail and Erica palms, simul, coral tree).

.....4 lectures

3. **Fruit and vegetable crops:** production, origin and distribution; description of plants and their



economic products; management and marketing of vegetables and fruit crops; identification of some fruits and some vegetables varieties (citrus, banana, mango, chillis and cucurbits).

.....4 lectures

4. **Horticultural techniques:** application manures, fertilizers, nutrients and PGRs; weed controls, biofertilizers, biopesticides, irrigation methods. Hydroponics, propagation methods; vegetative (grafting, cutting, layering, budding), sexual (seed production), scope and limitations.

.....8 lectures

5. Landscaping and garden designing: planning and lay out (parks and gardens).

.....6 lectures

6. **Floriculture:** cut flowers, bonsai, commerce (market demand and supply), importance of flower shows and exhibitions.

.....6 lectures

7. **Post harvest technology:** Importance of post harvest technology in horticultural crops, evaluation of quality, traits; harvesting and handling of fruits, vegetables, cut flower; principles, methods of preservation and processing, methods of minimizing losses during storage and transportation; food irradiation- advantages and disadvantages; food safety.

.....10 lectures

8. **Disease control and management:** field and post harvest diseases, identification of deficiency symptoms, remedial measures and nutritional management practices; crop sanitation; IPM strategies (genetic, biological and chemical methods for pest control); quarantine practices; identification of common diseases and pest of ornamental fruits and vegetable crops.

.....8 lectures

9. **Horticultural crops-** conservation and management: documentation and conservation of germplasm. Role of micropropagation and tissue culture techniques; varieties and cultivars of various horticultural crops; IPR issues, national international and professional societies and sources of information on horticulture.

.....10 lectures

**PRACTICAL- HORTICULTURAL PRACTICES AND POST- HARVEST TECHNOLOGY (BOT-A-DSE-B-5-6-P)**  
**(Credits 2)**

Field trip- field visits to gardens, standing crop sites, nurseries, vegetable gardens, horticultural fields at IARI/AHSI or other suitable locations and if possible to cold storage.

## **RESEARCH METHODOLOGY (BOT-A-DSE-B-6-7-TH)**

### **THEORETICAL**

**(Credits 4, Lectures 60)**

1. Basic concepts of research: research- definition and types of research (Descriptive vs. analytical, applied vs. fundamental, quantitative vs. qualitative, conceptual vs. empirical), research methods vs. methodology; literature- review and its consolidation; library research; field research; laboratory research.

.....10 lectures

2. General laboratory techniques: common calculations in botany laboratories; understanding the details on the label of reagent bottles; molarity and normality of common amino acids and bases; preparation of solutions. Dilution, percentage, molar, molal and normal solutions. Techniques of handling micropipettes; knowledge about common toxic chemicals and safety measures in their handling.

.....12 lectures

3. Data collection and documentation of observations. Maintaining of laboratory records, tabulation and generation of graphs. Imaging of tissue specimens and application of scale bars. The art of field photography.

.....6 lectures

4. Overview of biological problems: plant science research key areas, model organisms in research.

.....6 lectures

5. Methods to study plant cells/ tissue structure: whole mounts, peel mounts, squash preparations, clearing, maceration and sectioning, tissue preparation- fixation, dehydration etc., paraffin and plastic infiltration, preparation of thin and ultra-thin sections.

.....6 lectures

6. Plant micro-techniques: staining procedures, classification and chemistry of stains, staining equipments. Cytogenetic techniques with squashed plant materials.

.....12 lectures

7. The art of scientific writing and its presentation: numbers, units, abbreviations and nomenclature used in scientific writing. Writing references. Power point presentation. Poster presentation. Scientific writing ethics. Introduction to copy write- academic misconduct/ plagiarism.

.....8 lectures

## **PRACTICAL- RESEARCH METHODOLOGY (BOT-A-DSE-B-6-7-P)**

**(Credits 2)**

1. Experiments based on calculations
2. Plant microtechnique experiments

3. The art of imaging of samples through photomicrography and field photography
4. Poster/ power point presentation on defined topics
5. Technical writing on topics assigned.

## **Natural resource management (BOT-A-DSE-B-6-8-TH)**

### **THEORETICAL**

**(Credits 4, Lectures 60)**

#### **Unit 1: Natural resources**

Definition and types.

..... 2 lectures

#### **Unit 2: Sustainable utilization**

Concept, approaches (economic, ecological and socio-cultural).

..... 8 lectures

#### **Unit 3: Land**

Utilization (agricultural, pastoral, horticultural, silvicultural); Soil degradation and management.

..... 8 lectures

#### **Unit 4: Water**

Fresh water (rivers, lakes, groundwater, aquifers, watershed); Marine; Estuarine; Wetlands; Threats and management strategies.

..... 8 lectures

#### **Unit 5: Biological Resources**

Biodiversity-definition and types; Significance; Threats; Management strategies; Bioprospecting; IPR; CBD; National Biodiversity Action Plan).

..... 12 lectures

#### **Unit 6: Forests**

Definition, Cover and its significance (with special reference to India); Major and minor Forest products; Depletion; Management.

..... 6 lectures

#### **Unit 7: Energy**

Renewable and non-renewable sources of energy.

..... 6 lectures

#### **Unit 8: Contemporary practices in resource management**

EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting; Waste management.

..... 8 lectures

#### **Unit 9: National and international efforts in resource management and conservation**

..... 4 lectures

**PRACTICAL- Natural resource management (BOT-A-DSE-B-6-8-P)**  
**(Credits 2)**

1. Estimation of solid waste generated by a domestic system (biodegradable and non-biodegradable) and its impact on land degradation.
2. Estimation of foliar dust deposition.
3. Determination of total solid in water (TDS)
4. Determination of chemical properties of soil by rapid spot test (carbonate, iron, nitrate)
5. Estimation of organic carbon percentage present in soil sample.
6. Collection of data on forest cover of specific area.

## REFERENCES

### Suggested Readings

#### 1. General studies

1. Ganguli, H.C., Das, K.S.K. & Dutta, C.T. College Botany, Vol. I, latest Ed., New Central Book Agency
2. Ganguli, H.C. and Kar, A.K. College Botany, Vol. II, latest Ed., New Central Book Agency
3. Mukherjee, S. College Botany, Vol. III, latest Ed., New Central Book Agency
4. Uno, Storey & Moore, Principles of Botany, 2001, McGraw Hill.
5. Kenrick, P. & Crane, P. The Origin & early diversification of land plants (1997), Smithsonian Institution Press.
6. Bell, P.R. & Hensley, A.R. Green plants; their Origin & Diversity (2nd ed.), 2000, Cambridge University Press
7. Frenchel, T. The origin & early Evolution of life, 2002, Oxford University Press.
8. Hait, G., Ghosh, A. and Bhattacharya, K. A Text Book of Botany (Vols. I, II & III), 2007, New Central Book Agency
9. Lock, A.J., & Evans, D.E., Plant Biology, 2001, Viva Books
10. Chatterjee, T., Santra, S.C. and Das, A. Practical College Botany, New Central Book Agency

#### 2. Algae

1. Kumar, H.D. Introductory Phycology (2nd ed.), 1999, Affiliated East-West Press Pvt. Ltd.
2. Lee, R.E. Phycology (3rd ed.), 1999, Cambridge University Press
3. Vashishta, B.R., Sinha, A.K. & Singh, V.P. Algae (9th ed.), 2002, S. Chand & Company
4. Sambamurty, A.S.S. A text book of Algae, 2005, I.K. International Pvt. Ltd. 22
5. Graham, L.E. & Wilcox, L.W. Algae, 2000, Prentice Hall
6. Smith, G.M. Cryptogamic Botany, Vol. 1 (2nd ed.), 1955. McGraw Hill
7. Prescott, G.W. Algae: A Review: 1969 Bishen Singh Mahendra Pal Singh
8. Fritsch, F.E. The Structure & Reproduction of Algae, 1936, Vols. I & II, Cambridge University Press
9. Hoek, Van den. Algae, 1995, Cambridge University press
10. Laura De Basanti : Algae, 2004
11. Ray, S. (3rd ed.), Algal Biotechnology Biodiversity, 2010, New Central Book Agency
12. Sharma, O.P. Text Book of Algae, Tata McGraw Hill
13. Ray, S. Algae: Cyanobacteria (2006), New Age International (P) Ltd. Publishers

#### 3. Microbiology

1. Stainer, T.Y., Ingrahm, J.L., Wheelis, M.L. & Painter, P.R. General Microbiology (5th ed.), 1986, Macmillan Education Ltd.
2. Dubey, R.C. & Maheswari, D.K. A Text Book of Microbiology, 2005, S.Chand & Company
3. Case. Funke & Tortora, G.J. Microbiology, an Introduction (Latest Ed.)

4. Atlas, R.M. Principles of Microbiology, Latest Ed., McGraw Hill
5. Schlegel, H.G. General Microbiology, Latest Ed., Cambridge University Press
6. Prescott, L.M., Harley, P. & Klein, A. General Microbiology (5th ed.), 2002, WBC McGraw Hill
7. Singleton, P. Bacteria; in Biology, Biotechnology and Medicine (5th ed.), 1999, John Wiley & Sons Ltd.
8. Jay, J.M. Modern Food Microbiology (5th ed.), 1996, Chapman & Hall
9. Madigan, M.T., Martinko, J.M. & Parker, J. Brock, Biology of Microorganisms (10th ed.), 2003, Prentice Hall
10. Hull, R. Matthew Plant Virology (4th ed.), 2002, Academic Press
11. Biswas, S.B. & Biswas, A. An Introduction to Viruses (4th ed.), 1996, Vikas Publishing House
12. Agarwal, A.K. & Parihar, P. Industrial Microbiology, 2005, Agrobios (India)
13. Power, C.B. & Dagimawata, H.F. General Microbiology, Vol. I&II, Himalaya Publishing House
14. Mitchell, R. Environmental Microbiology, Latest Ed. Wiley, N.Y.
15. Sale, A.J. Fundamental Principles of Microbiology, Latest Ed., Tata McGraw Hill
16. Banerjee, A.K. & Banerjee, N. Microbiology & Immunology, 2006, new Central Book Agency
17. Prescott & Dunn. Industrial Microbiology
18. Verma, H.N. Basics of Plant Virology (2003), Oxford and IBH

#### **4. Fungi, Lichen & Plant Pathology**

1. Dubey, H.C. An Introduction to Fungi (2nd ed.), 1990, Vikas Publishing House 23
2. Webster, J. Introduction to Fungi (3rd ed.), Cambridge University Press
3. Alexopoulos, C.J., Mims, C.W. & Blackwell, M. Introductory Mycology (4th ed.), 1996, John Wiley & Sons
4. Hawksworth, D.L. Ainsworth & Bisby Dictionary of Fungi (8th ed.), 1995, Oxford University Press
5. Kavanagh, K. (ed.) Fungi, 2005, Wiley
6. Carlile, M.J., Wilkinson, S.C. & Goodlay, G.W. The Fungi (2nd ed.), 2005, Academic Press
7. Arora, D. (ed.). Hand book of Fungal Biotechnology (2nd ed.), 2003, Dekker, N.Y.
8. Sharma, P.D. Fungi & Allied Organisms, 2005, Narosa Publishing House
9. Deacon, J.W. Fungal Biology, 2006, Black Well Science Ltd.
10. Ingold, C.T. & Hudson, H.J. The Biology of Fungi 96th ed.), 1993, Chapman & Hall
11. Sharma, O.P. Text book of Fungi, Tata McGraw Hill
12. Vashista, B.R. Fungi, Latest Ed., S. Chand & Company
13. Chopra, G.L. and Verma, V.A. Text Book of Fungi, Pradeep Publications
14. Liver, R. and Schweizer, M. Molecular Fungal Biology, 1999, Cambridge University Press
15. Dix, N.J. and Webster, J. Fungal Ecology, Chapman & Hall
16. Mehrotra, R.S. and Aneja, K.R. An Introduction to Mycology, Wiley Eastern Ltd.
17. Sharma, P.D. the Fungi, Rastogi Publication

18. Moore Landrecker, E. Fundamentals of the Fungi, Prentice Hall
19. Agrios, G.N. Plant Pathology (5th ed.), 2005, Elsevier, Academic Press
20. Mehrotra, R.S. & Agarwal, A. plant Pathology (2nd ed.), 2003, Tata McGraw Hill
21. Singh, R.S. Principles of Plant Pathology (4th ed.), 2002, oxford & IBH Publishing Com.
22. Manners, J.G. Principles of Plant Pathology (2nd ed.), 1993, Cambridge University Press
23. Trigiano et al. (ed.) Plant Pathology, Concepts and Laboratory exercises, 2004, CRC Press
24. Lucas John, A. Plant Pathology & Plant Pathogen, Oxford
25. Singh, R.S. Plant diseases, Oxford & IBH Publishing Com
26. Rangaswami, G.K. & Mahadevan, A. Diseases of Crop Plants in India, Prentice Hall
27. Dickinson, M. Molecular Plant Pathology, 2003, Bio-Scientific Publishers
28. Isaac, S. Fungal plant Interaction, 1992, Chapman & Hill
29. Bilgrami, K.S. and Dubey, H.C. A TextBook of Modern Plant Pathology, Vikas Publishing House
30. Sharma, P.D. Plant Pathology (2nd ed.), Rastogi Publications
31. Strange, R.N. (ed.) Introduction of plant Pathology, 2003, Wiley
32. Dube, H.C. An Introduction to Fungi (2005), Vikas Publishing House

## **5. Bryophytes**

1. Parihar, N.S. Introduction to Embryophyta (Vol. 1 Bryophyta), Central Book Distributors
2. Shaw, A. Jonathan and Goffinet Bernard, Bryophyte Biology, 2009, Cambridge university Press
3. Rashid, A. An Introduction to Bryophyta, 1998, Vikas Publishing House
4. Chopra, R.N. & Kumar, P.K. Biology of Bryophyta, Latest Ed., Wiley Eastern
5. Puri, P. Bryophyte, Latest Ed., Atmaram & Sons
6. Vashista, B.R. Bryophyta, Latest Ed., S. Chand & Company
7. Schofield, W.B. Introduction to Bryology, 201, Blackburn Press
8. Smith, A.J.E. (ed.), Bryophyte Ecology, 1982, Chapman & Hall
9. Vanderpoorten & Goffinet, B., Introduction to Bryophytes, 2009, Cambridge university Press

## **6. Palaeobotany and Palynology**

1. Stewart, W.N. & Rothwell, G.W. Palaeobotany & Evolution of Plants, Latest Ed., Cambridge university Press
2. Agashe, S.N. Palaeobotany, Latest Ed., Oxford & IBH
3. Thomas, B.A. & Spicer, R.A. The Evolution & Palaeobotany of Land Plants, Latest Ed., Croomhelm
4. Andrews, H.N. Studies in Palaeobotany, Latest., John Wiley & Sons
5. Meyen, S.V. Fundamentals of Palaeobotany, latest Ed., Chapman & Hill
6. Erdtman, G. pollen Morphology & Plant Taxonomy, Latest Ed., Lelden, E.G. Brill
7. Faegri, K. & Iversen, Text Book of Pollen Analysis, Latest Ed., Munksgor, Copenhagen

8. Nair, P.K. Pollen Morphology of Angiosperms, Latest Ed., Scholar Publications
9. Heslop- Harisson, Pollen: Development & Physiology, Latest Ed., Butterworth
10. Shivanne, K.H. Pollen Biology & Biotechnology, 2003, Oxford & IBH
11. Taylor, T.N. & Taylor, E. N. The Biology & Evolution of Fossil Plants, 1993, Prentice Hall.
12. Willis, K.J. & Mc Elwain, J.C. The Evolution of Plants, 2002, Oxford University Press.
13. Bhattacharya, K., Majumdar, M.R. & Gupta Bhattacharya, S. A Text Book of Palynology, 2006, New Central Book Agency.

## **7. Embryology**

1. Raghavan, V. Molecular Embryology of Flowering Plants, 1997, Camb. University Press.
2. Maheswari, P. An Introduction to Embryology of Angiosperm, Latest Ed., Tata McGraw Hill.
3. Raghavan, V. Embryogenesis in Angiosperms: A Development & Experimental Study, 1986, Cambridge University Press.
4. Bhojwan, S.S. & Bhatnagar, S.D. The Embryology of Angiosperms(4th ed.), 1989, Vikas Publishing House.
5. John, B.M.(ed.). Experimental Embryology of Vascular Plants, 1982, Springer, Heidelberg.
6. Westhaff, P. et al. Molecular Plant Development; From Gene to plant, 1998, Oxford University Press.

## **8. Pteridophytes**

1. Spore, K.R. The Morphology of Pteridophyte, Latest Ed. , Huchinson & Co. Ltd.
2. Rashid, A. An Introduction to Pteridophyta, Latest Ed., Vani Educational Books.
3. Vashista, P.C. Pteridophyta, Latest Ed., S. Chand & Company Pvt. Ltd.
4. Gifford, E. M. & Foster, A. S. Morphology & Evolution of Vascular Plants (3rd ed.), 1998, Freeman and Co.
5. Mukherjee, R.N. & Chakraborty, K.A. Introduction to Vascular Cryptogams (Pteridophyta) 1995, Kalyani Publications.
6. Parihar, N.S. The Biology & Morphology of Pteridophytes (2nd ed.), 1989, Central Book Distributors.

## **9. Gymnosperms**

1. Sporne, K.R. The Morphology of Gymnosperms, Latest Ed., Hutchinson &Co. Ltd.
2. Vashishta, P.C. Gymnosperm, Latest Ed., S. Chand & Company Pvt.
3. Karkar, R.K. & Karkar, R. The Gymnosperms, Latest Ed.
4. Bhatnagar, S.P. & p.Moitra, A.Gymnosperm, 1997, New Age International
5. Biswas, C. & Johri, P.M. The Gymnosperm, 1997, Narosa Publishing House
6. Dutta, S.C. An Introduction to Gymnosperms (3rd ed.), 1984, Kalyani Publishers
7. Gifford, E.M. and Foster, A.S. Morphology & Evolution of Vascular Plants (3rd ed.), 1989, Freeman & Co.
8. Norstag, J. & Nicholls. T.J. The Biology of the Cycads, 1997, Cornell University Press
9. Friedman, W.E. Biology & Evolution of the Gnetales, 1996, University of Chicago Press



## **10. Ecology & Plant Geography**

1. Chapman and Riss. Ecology: Principles and Applications, Latest Ed., Cambridge University Press
2. Shukla, R.S. & Chandel, P.S. Plant Ecology, Latest Ed., S. Chandel and Co.
3. Kumar, H.D. Modern Concept of Ecology, Latest Ed. Vikas Publishing House
4. Begon, M., Herper, J.L. and Townsend, C.R. Ecology- Individuals, Populations and Communities (3rd ed.), Oxford Blackwell Science
5. Verma, P.S. & Agarwal, U.K. Concept of Ecology, Latest Ed., S. Chand & Company
6. Odum, F.P. Fundamentals of Ecology, Latest Ed., Saunders
7. Sharma, P.D. Elements of Ecology, Latest Ed., Rastogi Publications
8. Ambasht, R.S. & Ambasht, N.K. A Text Book of Plant Ecology, Latest Ed., CBS Publication & Distributors
9. Mani, M.S. Bio-Geography of India, Latest Ed., Springer-Verlag.
10. Mackenzie et al. Ecology, Latest Ed., Viva Books.
11. Gurevitch, J. (et al.), The Ecology of plants, 2002, Sinauer Associates.
12. Kimar, U. & Asija, M.J. Bio-diversity: Principles & Conservation, 2005, Student Edition, Agrobios (India)
13. Krishnamurthy, K.V. An Advanced Text Book on Biodiversity, 2003, Oxford & IBH Publishing Co. Ltd.
14. Mitra, D., Guha, J.K., Chowdhury, S.K. Studies in Botany, Vol. II (7th ed.) Moulik Library.
15. Primack, R.B. Essentials of Conservation Biology, 1993, Sinauer Associates.
16. Lo, C.P. & Yeung, A.K.W. Concepts and Techniques of Geographic Information Systems, 2002, Printice-Hall of India.
17. Cain, Bowman, Hacker. Ecology. 2014. 3rd Ed. Sinauer Associates

## **11. Evolution**

1. Futuyma., D. Evolution. 2015. (3rd Ed.) Sinauer Associates
2. Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Jane B. Reece. Campbell Biology. 2017. 11th Ed. Pearson

## **12. Anatomy**

1. Fahn, A. Plant Anatomy (4th ed.), 1990, Wiley Eastern.
2. Mauseth, J. D. Plant Anatomy, Latest Ed., Benjamin Cummings Pub.
3. Metcalfe, C.P. & Chalk, L. Anatomy of Dicotyledons, Vol. I & II, London Press, Oxford
4. Dickison, W.C. Integrative Plant Anatomy, 2002, Academic Press
5. Eames, A.J. & Mac. Daniels, L.H. An Introduction to Plant Anatomy, Latest Ed., McGraw Hill
6. Esau, K. Anatomy of Seed Plants (2nd ed.), 1977, John Wiley & Sons
7. Cutter, E.G. Plant Anatomy: Experiment and Interpretations, Part I & II, Edward Arnold
8. Beck, C.B. An Introduction to plant Structure and Development (2nd ed.), Cambridge University Press

9. Howels, S.H. Molecular Genetics of Plant Development, 1998, Cambridge University Press

10. Pandey, B.P. Plant Anatomy, Latest Ed., S. Chand & Company

11. Tayal, M.S. Plant Anatomy, Latest Ed., Rastogi Publications

12. Roy, P. Plant Anatomy, Latest Ed., New Central Book Agency

### **13. Morphology and Taxonomy of Angiosperms**

1. Judd, W.S., Campbell, C.S., Kellogg, E.A., Stevens, P.F. and Donoghue, M.J. Plant Systematics, A Phylogenetic Approach (4th ed.), 2016, Sinauer Associates, Inc.

2. Jones, S.B. and Luchsinger, A.E. Plant Systematics (2nd ed.), 1987, McGraw Hill Book Company

3. Singh, G. Plant Systematics: An Integrated Approach (3rd ed.), 2016, CRC Press

4. Sambamurty, A.V.S.S. Taxonomy of Angiosperms, 2005, I.K. International Pvt. Ltd.

5. Sivarajan, V.V. Principles of Plant Taxonomy (2nd ed.), 1991, Oxford & IBH

6. Subrahmanyam, N.S. Modern Plant Taxonomy, Latest Ed., Vikas Publishing House

7. Naik, V.N. Taxonomy of Angiosperms, Latest Ed., Tata McGraw Hill

8. Stace, C. A Plant Taxonomy & Biosystematics, Latest Ed., Arnold Publishers

9. Mitra, J.N. An Introduction to Systematic Botany & Ecology, Latest Ed., World Press

10. Dutta, S.C. systematic Botany, Latest Ed., Wiley Eastern.

11. Lawrence, G.H.M. Taxonomy of Vascular Plants Ed., Oxford & IBH.

12. Prain, D. Bengal Plants (Vol I & II), Bishen Singh Mahendra Pal Singh.

13. Jeffrey, C. An Introduction to Plant Systematics, Latest Ed., Allied Publishers Pvt. Ltd.

14. Radford, A.B. Fundamentals of Plant Systematics, Latest Ed., Harper & Row.

15. Paria, N.D. and Chattopadhyay, S.P. Flora of Hazaribagh District, Bihar, 2000 & 2001, Vol I & II, BSI, Kolkata

16. Simpson, G. Plant Systematics, 2006, Springer.

17. Bhattacharya, B. Systematic Botany, 2006, Narosa Publishing House.

18. Heywood, V.H. Plant Taxonomy 1967, Edward Arnold, London.

19. Cronquist, A. The Evolution & Classification of Flowering Plant, 1988 (2nd ed.), New York Bot. Garden Bronx. New York.

20. Cronquist, A. An Integrated System of Classification of Flowering Plants. 1981. Bishen Singh Mahendra Pal Singh.

21. Subramanyam, N.S. Laboratory Manual of Plant Taxonomy (2nd ed.) 1999, Vikas Publishing House.

22. Mondal, A. Taxonomy: Advances Plant Taxonomy 2005, New Central Book Agency.

23. Heywood, V.H. Flowering Plants of the World 1978, Oxford University Press.

### **14. Biochemistry & Plant Physiology**

1. Taiz, L., & Zeiger, E. Plant Physiology (4th ed.), 2006, Sinauer Associates, Inc. Publishers.

2. Lincoln Taiz, Eduardo Zeiger, Ian M. Møller, and Angus Murphy. Plant Physiology and Development. (6th ed.) Sinauer Associates.
3. Hopkins, W.G. & Hiiner, N.P. Introduction to Plant Physiology (3rd ed.) 2004, John Wiley & Sons.
4. Jain, V.K. Fundamental of Plant Physiology (7th ed.) 2004. S. Chand and Company.
5. Salisbury, F.B. & Ross, C.W. Plant Physiology (4th ed.), 19992, Wadsoworth Publishing Company.
6. Panday, S.N. & Sinha, B.K. Plant Physiology (4th ed.), 2006, Vikas Publishing House Pvt. Ltd.
7. Wilkins, M.B. Advances Plant Physiology. 1984, ELBS Longman.
8. Srivastava, L.M. Plant Growth and Development, 2001, Academy Press.
9. Davies P.J. (ed.) Plant Physiology: Physiology, Bio-Chemistry & Molecular Biology, Academic Press.
10. Mukherjee, S. & Ghosh, A. Plant Physiology (2nd ed.), 2005, New Central Book Agency.
11. Hames, B.D. Bio-Chemistry (2nd ed.) Viva Books.
12. Sackheim, G. Chemistry for Biology Students (5th ed.) 1996, Benjamin/Cummings
13. Raman, H. Transport Phenomenon in Plants, 1997. Narosa Publishing House.
14. Heldt, Hans-Walter. Plant Bio-Chemistry (3rd ed.), 2005. Elsevier Academic Press.
15. Chaudhuri, D., Kar, D.K., and Halder, S.A. Handbook of Plant Biosynthetic Pthways 2008, New Central Book Agencies.
16. Mehta, S.L., Lodha, M.L. & Bane, P.V. Recent Advances in Plant Biochemistry, 1989. I.C.A.R.
17. Conn, E.E. and Stumpf, R.R. Outlines of Bio-Chemistry, Latest Ed., Wiley Eastern.
18. Voet, D. and Voet, J.G., Bio-Chemistry (3rd ed.), 2005, John Wiley & Sons.
19. Mathews, C.K., Van Holder, K.E. & Ahren, K.G. Bio-Chemistry (3rd ed.), 2000, Pearson Education.
20. Lehninger Principles of Biochemistry. Sixth Edition. 2013. David L. Nelson, Michael M. Cox. Freeman, Macmillan.
21. Goodwin, T.W., & Mercer, E.I. Introduction to Plant Biochenistry, Latest Ed., Oxford Pergamon.
22. Berg, J.M., Tymoczko, J.L., & Stryer, L., Bio-Chemistry, Latest Ed., Freeman Publ.
23. Mekee, T. & Mekee, J.R. Bio-Chemistry: The Molecular Basis of Life, 2003, McGraw Hill.
24. Sinha, R.K. Modern Plant Physiology, 2004, Narosa Publishing House.
25. Srivastava, H.S. Plant Physiology (2nd ed.), 1998, Rastogi Publications.
26. Singhal, G.S. Concepts of Photobiology: Photosynthesis & Photomorphogenesis, 1999. Narosa Publishing House.
27. Hall. D.O. & Rao, K.K. photosynthesis (5th ed.), 1995, Cambridge University Press.
28. Buchanon, Gruissen and Jones. Plant Physiology & Biochemistry: Biochemistry and Molecular Biology of plants, 2000, I.K. International.

## **15. Pharmacognosy**

1. Trease & Evans. Pharmacognosy, Saunders.
2. Taylor, V.E., Brady, L.R. and Robbers, J.E. Pharmacognosy, Ind. Ed. K.M. Vergese Co.
3. Wallis, T.E. Text Book of Pharmacognosy, Latest Ed., CBS Publishers & Distributors.
16. Cell Biology, Genetics & Molecular Biology
  1. Pierce, Benjamin A. Genetics (2nd ed.), 2005, W.H. Freeman & Company.
  2. Atherly, A.G., Girton, J.R. & McDonald, J.F. Science of Genetics, 1999, Saunders College Publications.
  3. Hartwell, L.H., Hood, L., Goldberg, M.L., Reynolds, A.E., Silver, L.M. & Veres, R.C. Genetics (2nd ed.), 2004, McGraw Hill.
  4. Tamarin, Robert H. Principles of Genetic (7th ed., 2002, Tata McGraw Hill.
  5. Elrod, S.K. & Stanfield, W. Schuam's Outlines Genetics (4th ed.), 2002, Tata McGraw Hill.
  6. Hartl, D.L. & Jones, E.W. Genetics , 2005, Jones & Barlett Publishers.
  7. Lewin, B. Genes VIII, 2004, Pearson Educational International.
  8. Watson, J.D., Baker, T.A., Bell, S.P., Gann, A., Levine, M. & Losick, R. Molecular Biology of the Gene (5th ed.) 2004. Pearson Education Inc.
  9. Griffiths, A.I.F., Miller, J.H., Suzuki, D.T., Lewentin, C.R. & Gilbert, M.W. An Intrduction to Genetic Analysis, 2005 (8th ed.), W.H. Freeman & Company.
  10. Brown, T.A. Genomes, 1999, John Wiley & Sons.
  11. Brown, T.A. Genomes 3, 2007, Garland Science Publishing.
  12. Snustad, D.P. & Simmons, M.J. Principles of Genetics (2nd ed.), 2000, (4th ed.), 2006, John Wiley & Sons.
  13. Klug, W.S. & Cummings, M.R. Concepts of Genetics, 2003, Pearson Education.
  14. Gerald Karp. Cell Biology. 2013. 7th Ed. International Student Version. Wiley.
  15. Hawkins, J.D. Gene Structure & Expression (3rd ed.), 1996, Cambridge University Press.
  16. Becker, M.W., Klemsmith, L.J. & Hardin, J. The World of the Cell (5th ed.), 2003, Pearson Education.
  17. Cooper, G.M. The Cell, A molecular approach (2nd ed.), 2000, ASM Press.
  18. Weaver, R.F. Molecular Biology (2nd ed./3rd ed.), 2002/2005, McGraw Hill.
  19. Malacinski, G.M. Freifelder, Essentials of Molecular Biology (4th ed.), 2003, Narosa Publishing House.
  20. Sambamurty, A.V.S.S. Genetics (2nd ed.), 2005, Narosa publishing House.
  21. Sharma, A. & Sen, S. Chromosome Botany, 2002, Oxford & IBH Publishing.
  22. Sen, S. & Kar, D.K. Cytology& Genetics, 2005, Narosa Publishing House.
  23. Miglani. G.S. Advanced Genetics, 2002, Naroas Publishing House.
  24. Gupta, P.K. Genetics, 2007, Rastogi Publications.
  25. De Robertis, E.D.P. & De Robertis, E.M.M, Cell & Molecular Biology (8th ed.), 1987, Informed Limited.
  26. Sharma, A.K. and Sharma, A. Chromosome Technique, 1980, Butterworth Publications.

27. Strickberg, M.W. Genetics, McMillan.
28. Jain, H.K. Genetics, 1999, Oxford & IBH Publishing Company.
29. Swanson, C.P., Merz, T. & Young, W.J. Cytogenetics, 1981, Prentice Hall.
30. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K. & Walter, P. Molecular Biology of the Cell, 2002 (4th ed.), Garland Sciences.
31. Gardner, E.J., Simmons, M.J. & Snustad, D.P. Principles of Genetics (8th ed.) 1991, John Wiley & Sons.
32. Twyman, R.M. Gene Transfer to Plant Bios.
33. Gregory, T.R. The Evolution of the Genome, 2005, Elsevier.
34. Russel, P.J. Fundamental of Genetics (2nd ed.), 2000, Pearson Education.
35. Sinnott, E.W., Dunn, L.C. & Dobzhansky, T. Principles of Genetics (5th ed.) 1958, Tata McGraw Hill.
36. Old, R.W. & Primrose, S.B. Principles of Gene Manipulation, 1989, Blackwell Scientific Publications.
37. Kar, D.K. and Halder, S. Cell Biology, Genetics and Molecular Biology 2008, New Central Book Agency.
38. Roy, S.C. and De, K.K. Cell Biology, 1997, New Central Book Agency.
39. Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, Peter Walter. Molecular Biology of the Cell. 2015. 6th Ed: Garland Science.
40. Harvey Lodish , Arnold Berk, Chris A. Kaiser , Monty Krieger , Anthony Bretscher , Hidde Ploegh , Angelika Amon , Kelsey C. Martin. Molecular Cell Biology. 2013. 8th Ed. Freeman.

### **17. Plant Breeding & Biometry**

1. Chaudhuri, H.K. Elementary Principles of Plant Breeding, Latest Ed., Oxford & IBH.
2. Allaed, R.W. Principles of Plant Breeding, 1960, John Wiley & Sons.
3. Poehlman, J.M. & Barthakur, D. Plant Breeding, Latest Ed., Oxford & IBH.
4. Singh, B.D. Plant Breeding, Principles & Methods (7th ed.), 2005, Kalyani Publishers.
5. Barley, N.T.J. Statistical Methods in Biology, Latest Ed., Cambridge University Press
6. Roy, D. Plant Breeding: Analysis & Exploitation of Variation, 2000, Narosa Publishing House.
7. Zar, J.H. Biostatistical Analysis (3rd ed.), 1996, Prentice Hall.
8. Kar, D.K. and Halder, S. Plant Breeding & Biometry, 2006, New Central Book Agency.
9. Dutta, Animesh K. Basic Biostatistics & its Application 2006, New Central Book Agency.

### **18. Plant Biotechnology**

1. Chawla, H.S. An Introduction to Plant Biotechnology (2nd ed.), 2002, Oxford & IBH
2. Borer, A., Sentos, F.R. & Bowen, D.B. Understanding Biotechnology, 2003, Pearson Education
3. Ingacimuthu, S. Plant Biotechnology, 1997, Oxford & IBH
4. Walker, J.M. & Rapley, R. Molecular Biology & Biotechnology, 2000, Royal Society of Chemistry
5. Collin, H.A. and Edwards, S. Plant Cell Culture, 1998, Bios Scientific Publishers

6. Dixon, R.A. & Gonzales, R. A. Plant Cell Culture: A Practical Approach, 1994, Oxford University Press
7. Gamorgs, O.L. & Phillips, G.C. Plant Cell, Tissue and Organ Culture: Fundamental method, Narosa Publishing House
8. Dubey, R.C. Biotechnology, Latest Ed., S.Chand & Company Pvt. Ltd.
9. Bhojwani, S.S. & Razdan, M.I. Plant Tissue Culture: Theory and Practise, Elsevier
10. Rajdan, M.K. An Introduction to Plant Tissue Culture, Latest Ed., Oxford & IBH
11. Jha, T.B. & Ghosh, B. Plant Tissue Culture, 2003, Universities Press
12. Singh, B.D. Biotechnology Latest ed., Kalyani Publishers.
13. Mascarenhas, A.F. Handbook of Plant Tissue Culture, ICAR
14. Kar, D.K. & Halder, S. Plant Breeding, Biometry & Biotechnology, 2010, New Central Book Agency
15. Gupta, P.K. Biotechnology & Genomes, latest Ed., Rastogi Publications
16. Slatter, A., Scott, N. & Fowler, N. Plant Biotechnology, 2003, Oxford University Press
17. Dey, K.K. Plant Tissue Culture, 1992, New Central Book Agency

#### **19. Natural resource management**

1. Vasudevan, N. (2006). Essentials of Environmental Science. Narosa Publishing House, New Delhi.
2. Singh, J. S., Singh, S.P. and Gupta, S. (2006). Ecology, Environment and Resource Conservation. Anamaya Publications, New Delhi.
3. Rogers, P.P., Jalal, K.F. and Boyd, J.A. (2008). An Introduction to Sustainable Development. Prentice Hall of India Private Limited, New Delhi.

**UNIVERSITY OF CALCUTTA**  
**SYLLABUS**  
**FOR**  
**THREE-YEAR B.Sc. PROGRAMME IN**  
**BOTANY (GENERAL COURSE)**  
**UNDER CHOICE BASED CREDIT SYSTEM**



**BOTANY**

**Syllabus for three-year B.Sc. Botany Programme**  
**(With effect from 2018-2019)**

## **CORE COURSES (4)**

**Each theoretical course of 4 credits and practical of 2 credits.**

- 1. Plant diversity I (Phycology, Mycology, Phytopathology, Bryophytes and Anatomy) – a) Theoretical- BOT-G-CC-1-1-TH b) Practical- BOT-G-CC-1-1-P (... .. GE-1-1-TH & P)**
- 2. Plant diversity II (Pteridophytes, Gymnosperms, Palaeobotany, Morphology and Taxonomy) – a) Theoretical- BOT-G-CC-2-2-TH b) Practical- BOT-G-CC-2-2-P (... .. GE-2-2-TH & P)**
- 3. Cell biology, Genetics and Microbiology – a) Theoretical- BOT-G-CC-3-3-TH b) Practical- BOT-G-CC-3-3-P (... .. GE-3-3-TH & P)**
- 4. Plant physiology and metabolism – a) Theoretical- BOT-G-CC-4-4-TH b) Practical- BOT-G-CC-4-4-P (... .. GE-4-4-TH & P)**

**N.B.:** The above said four core courses (CC) may be considered as GE 1, 2, 3 & 4 respectively for the honours students of other allied disciplines opting Botany as one of the general courses.

**Skill enhancement courses (SEC, four courses to be selected strictly on 2 subjects out of 3 subjects opted taking 2 courses from each subject. Each general subject shall have 2 groups (A & B) of SEC papers. One paper from Group A from each of the 2 subjects to be chosen in the 3<sup>rd</sup> and 5<sup>th</sup> Semester, one paper from Group B of each of the 2 subjects to be chosen in the 4<sup>th</sup> and 6<sup>th</sup> Semesters. Each paper of 2 credits and theoretical only)**

### **SEC A**

- 1. Plant breeding and biometry (BOT-G-SEC-A-3/5-1)**
- 2. Biofertilizers (BOT-G-SEC-A-3/5-2)**

### **SEC B**

- 1. Plant biotechnology (BOT-G-SEC-B-4/6-3)**
- 2. Mushroom culture technology (BOT-G-SEC-B-4/6-4)**

**Discipline specific elective courses (DSE, two courses to be selected from the list taking one each from Group A in 5<sup>th</sup> semester and one from Group B in 6<sup>th</sup> Semester. Each course comprises of theoretical component of 4 credits and practical ones of 2 credits)**

### **DSE A**

- 1. Phytochemistry and medicinal botany- a) Theoretical- BOT-G-DSE-A-5-1-TH, b) Practical- BOT-G-DSE-A-5-1-P**
- 2. Natural resource management- a) Theoretical- BOT-G-DSE-A-5-2-TH, b) Practical- BOT-G-DSE-A-5-2-P**

### **DSE B**

- 3. Economic botany- a) Theoretical- BOT-G-DSE-B-6-3-TH, b) Practical- BOT-G-DSE-B-6-3-P**
- 4. Horticultural practices and post harvest technology - a) Theoretical- BOT-G-DSE-B-6-4-TH, b) Practical- BOT-G-DSE-B-6-4-P**



SEME STER	CORE COURSES (CC-1-4)	ABILITY ENHANCEMENT COMPULSORY COURSE (AEC-1&2)	SKILL ENHANCEMEN T COURSE (SEC-1-4)	DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE-1&2)
I	PLANT DIVERSITY I (PHYCOLOGY, MYCOLOGY, PHYTOPATHOLOGY, BRYOPHYTES AND ANATOMY) <b>BOT-G-CC-1-1-TH</b>	AECC-1 ENGLISH COMUUNICATIO N		
	PRACTICALS <b>BOT-G-CC-1-1-P</b>			
	OTHER DESCIPLINES (2)			
II	PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY, MORPHOLOGY AND TAXONOMY) <b>BOT-G-CC-2-2-TH</b>	AECC-2 ENVIRONMENTA L SCIENCE		
	PRACTICALS <b>BOT-G-CC-2-2-P</b>			
	OTHER DESCIPLINES (2)			
III	CELL BIOLOGY, GENETICS AND MICROBIOLOGY <b>BOT-G-CC-3-3-TH</b>		SEC-A	
	PRACTICALS <b>BOT-G-CC-3-3-P</b>			
	OTHER DESCIPLINES (2)			
IV	PLANT PHYSIOLOGY AND METABOLISM <b>BOT-G-CC-4-4-TH</b>		SEC-B	
	PRACTICALS <b>BOT-G-CC-4-4-P</b>			
	OTHER DESCIPLINES (2)			
V			SEC-A	DSE-A (any one from GROUP A) THEORY & PRACTICAL OTHER DESCIPLINES (2)
VI			SEC-B	DSE-B (any one from GROUP B) THEORY & PRACTICAL OTHER DESCIPLINES (2)

## SEMESTER I

### CORE COURSE 1

#### PLANT DIVERSITY I (PHYCOLOGY, MYCOLOGY, PHYTOPATHOLOGY, BRYOPHYTES AND ANATOMY) (BOT-G-CC-1-1-TH)

##### THEORETICAL

(Credits 4, Lectures 60)

#### 1. Introduction to different plant groups

.....2 lectures

#### 2. Phycology

2.1. Diagnostic characters and examples of Cyanophyceae, Rhodophyceae, Chlorophyceae, Charophyceae and Phaeophyceae, 2.2 Classification: Criteria and system of Fritsch, 2.3. Life histories of *Chlamydomonas*, *Chara* and *Ectocarpus*, 2.4. Role of algae in the environment, agriculture, biotechnology and industry.

.....14 lectures

#### 3. Mycology

3.1 Diagnostic characters and examples of Oomycotina, Mastigomycotina, Zygomycotina, Ascomycotina, Basidiomycotina, Deuteromycotina (Ainsworth, 1973). 3.2 Life histories of *Rhizopus* and *Ascobolus*, 3.3. Economic importance of fungi, 3.4 Fungal symbioses: *Mycorrhiza*, Lichen and their importance.

.....12 lectures

#### 4. Phytopathology

4.1 Symptoms - necrotic, hypoplastic and hyperplastic, 4.2 Koch's postulates, 4.3 Biotrophs and Necrotrophs, 4.4 Disease triangle, 4.5 Pathotoxins and phytoalexins (brief concept), 4.6 Symptoms, causal organism, disease cycle and control measures of plant diseases (Late blight of potato, Brown spot of Rice, Stem rot of jute).

.....10 lectures

#### 5. Bryophytes

5.1 Unifying features of archaegoniates and transition to land habit, 5.2 Amphibian nature of bryophytes, 5.3 Diagnostic characters and examples of Hepaticopsida, Anthocerotopsida and Bryopsida (Proskauer 1957), 5.4 Life histories of *Marchantia* and *Funaria*, 5.5 Ecological and economic importance.

.....10 lectures

#### 6. Anatomy

6.1 Stomata - Types (Metcalf & Chalk), 6.2 Anatomy of root, stem and leaf of monocots and dicots, 6.3 Stelar types and evolution, 6.4 Secondary growth – normal in dicot stem and anomaly in stem of *Tecoma* & *Dracaena*.

.....12 lectures

**PRACTICAL- PLANT DIVERSITY I (PHYCOLOGY, MYCOLOGY, PHYTOPATHOLOGY, BRYOPHYTES  
AND ANATOMY) (BOT-G-CC-1-1-P)  
(Credits 2)**

- 1. Work out:** Microscopic preparation, drawing and labeling of *Chlamydomonas*, *Chara*, *Ectocarpus*, *Rhizopus* and *Ascobolus*
- 2. Anatomical studies (following double staining method) of:** 2a. Stem- *Cucurbita*, sunflower and maize. 2b. Root- *Colocassia*, gram and orchid. 2c. Leaf- *Nerium*
- 3. Identification with reasons:** 3a. Cryptogamic specimens (macroscopic/microscopic as prescribed in the theoretical syllabus. 3b. Pathological specimens (herbarium sheets) of Late blight of potato, Brown spot of rice and stem rot of jute.
- 4. Laboratory records:** Laboratory note books (regularly signed) and slides (prepared in class) are to be submitted at the time of Practical Examination. Regular attendance in the class must be credited.
- 5.** Atleast one local excursion to be conducted to give an idea of plant diversity, habitat of algae and fungi

**SEMESTER II**

**CORE COURSE 2**

**PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY, MORPHOLOGY AND  
TAXONOMY) (BOT-G-CC-2-2-TH)  
THEORETICAL  
(Credits 4, Lectures 60)**

**1. Pteridophytes**

1.1 Diagnostic characters and examples of Psilophyta, Lycophyta, Sphenophyta & Filicophyta (Gifford & Foster 1989). 1.2 Life histories of *Selaginella* and *Pteris*, 1.3 Economic importance.

.....12 lectures

**2. Gymnosperms**

2.1 Progymnosperms (brief idea), 2.2 Diagnostic characters and examples of Cycadophyta, Coniferophyta and Gnetophyta (Gifford & Foster 1989), 2.3 Life histories of *Cycas* and *Pinus*, 2.4 *Williamsonia* (reconstructed), 2.5 Economic importance of Gymnosperms.

.....12 lectures

**3. Paleobotany & Palynology**

3.1 Fossil, fossilization process and factors of fossilization, 3.2 Importance of fossil study. 3.3 Geological time scale, 3.4 Palynology - Definition, spore & pollen (brief idea), Applications.

.....10 lectures

**4. Angiosperm Morphology**

4.1 Inflorescence types with examples, 4.2 Flower, 4.3 Fruits and seeds- type and examples.

.....12 lectures

**5. Taxonomy of Angiosperms**

5.1 Artificial, Natural and Phylogenetic systems of classification with one example each, 5.2 Diagnostic features of following families- Malvaceae, Leguminosae (Fabaceae), Cucurbitaceae,

Rubiaceae, Compositae (Asteraceae), Solanaceae, Acanthaceae, Labiateae (Lamiaceae), Orchidaceae, Gramineae (Poaceae).

.....14 lectures

**PRACTICAL- PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY,  
MORPHOLOGY AND TAXONOMY) (BOT-G-CC-2-2-P)  
(Credits 2)**

**1.** Dissection, drawing and labelling, description of angiospermic plants and floral parts, floral formula and floral diagram, identification (family) from the following families: Leguminosae (Fabaceae), Malvaceae, Solanaceae, Labiateae (Lamiaceae), Acanthaceae.

**2. Identification with reasons:**

Macroscopic specimens of *Selaginella* and *Pteris*, male and female strobilus of *Cycas* and *Pinus*, Anatomical slides (stellar types, transfusion tissue, sieve tube, sunken stomata, lenticels), inflorescence types.

**3. Spot identification** of the following Angiospermic plants (scientific names and families): *Sida rhombifolia* (Malvaceae), *Abutilon indicum* (Malvaceae), *Cassia sophera* (Fabaceae), *Tephrosia halimtonii* (Fabaceae), *Crotolaria palida* (Fabaceae), *Coccinia grandis* (Cucurbitaceae), *Solanum indicum* (Solanaceae), *Nicotiana plumbagenifolia* (Solanaceae), *Leucas aspera* (Lamiaceae), *Leonurus sibiricus* (Lamiaceae), *Parthenium hysterophorus* (Asteraceae), *Tridax procumbense* (Asteraceae), *Eclipta prostrate* (Asteraceae), *Eragrostis tenella* (Poaceae), *Chrysopogon aciculatus* (Poaceae), *Eleusine indica* (Poaceae), *Vanda taesellata* (Orchidaceae).

**4. Laboratory records:** Laboratory note books (regularly signed) and slides (prepared in class) are to be submitted at the time of Practical Examination. Regular attendance in the class must be credited.

**5. Field excursion:** Local Excursions (at least two including one to Acharya Jagadish Chandra Bose Botanic Garden, Shibpur, Howrah)

**6. Field Records:** Field note book and 15 herbarium sheets of common Angiospermic weeds are to be prepared and submitted at the time of Practical Examination. Regular attendance in the class must be credited.

**SEMESTER III**

**CORE COURSE 3**

**CELL BIOLOGY, GENETICS AND MICROBIOLOGY (BOT-G-CC-3-3-TH)**

**THEORETICAL**

**(Credits 4, Lectures 60)**

**1. Cell Biology and Genetics**

1.1 Ultrastructure of nuclear envelope, nucleolus and their functions, 1.2 Molecular organisation of metaphase chromosome (Nucleosome concept).

.....6 lectures

2. Chromosomal aberrations- 2.1 deletion, duplication, inversion & translocation, 2.2 Aneuploidy & Polyploidy-types, importance and role in evolution.

.....6 lectures

3. Central Dogma, 3.1 Transcription and Translation.

.....10 lectures

4. Genetic Code- properties.

.....4 lectures

5. Linkage group and Genetic map (three-point test cross).

.....6 lectures

6. Mutation – 6.1 Point mutation (tautomerisation; transition, transversion and frame shift), 6.2 Mutagen-physical and chemical.

.....8 lectures

7. Brief concept of Split gene, Transposons.

.....4 lectures

## **2. Microbes**

2.1 Viruses- Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance; 2.2 Bacteria- discovery, general characteristics and cell structure; reproduction- vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.

..... 16 lectures

## **RACTICAL- CELL BIOLOGY, GENETICS AND MICROBIOLOGY (BOT-G-CC-3-3-P) (Credits 2)**

### **1. Cell Biology:**

Staining (Aceto-orcein) and squash preparation of onion root tip: study of mitotic stages. Determination of mitotic index (from onion root tip).

### **2. Microbiology:**

Workout gram staining (curd/any natural source)

### **3. Identification with reasons:**

Cytological slides of different mitotic and meiotic stages.

Different forms of bacteria (*Coccus*, *Bacillus*, *Spiral*)

**4. Laboratory Records:** Laboratory note books (regularly signed) and slides (prepared in class) are to be submitted at the time of Practical Examination. Regular attendance in the class must be credited

## SEMESTER IV

### CORE COURSE 4

#### PLANT PHYSIOLOGY AND METABOLISM (BOT-G-CC-4-4-TH) THEORETICAL (Credits 4, Lectures 60)

##### 1. Proteins

1.1 Primary, secondary and tertiary structure, 1.2 Nucleic acid- DNA structure, RNA types, 1.3 Enzyme- Classifications with examples (IUBMB), Mechanism of action.

.....8 lectures

##### 2. Transport in plants

2.1 Ascent of sap and Xylem cavitation , 2.2 Phloem transport and source-sink relation.

.....4 lectures

##### 3. Transpiration

3.1 Mechanism of stomatal movement, significance.

.....4 lectures

##### 4. Photosynthesis

4.1 Pigments, Action spectra and Enhancement effect, 4.2 Electron transport system and Photophosphorylation, 4.3 C3 and C4 photosynthesis, CAM- Reaction and Significance.

.....12 lectures

##### 5. Respiration

5.1 Glycolysis & Krebs cycle— Reactions and Significance, 5.2 ETS and oxidative phosphorylation.

.....8 lectures

##### 6. Nitrogen metabolism

6.1 Biological dinitrogen fixation, 6.2 Amino acid synthesis (reductive amination and transamination).

.....6 lectures

##### 7. Plant Growth regulators

7.1 Physiological roles of Auxin, Gibberellin, Cytokinin, Ethylene, ABA.

.....10 lectures

##### 8. Photoperiodism (Plant types, Role of phytochrome and GA in flowering) and Vernalization.

.....6 lectures

##### 9. Senescence (brief idea).

.....2 lectures

#### PRACTICAL- PLANT PHYSIOLOGY AND METABOLISM (BOT-G-CC-4-4-P) (Credits 2)

##### Plant Physiology:

i) Experiment on Plasmolysis.

ii) Measurement of leaf area (graphical method) and determination of transpiration rate per unit

area by weighing method.

iii) Imbibition of water by dry seeds - proteinaceous and fatty seeds.

iv) Evolution of O<sub>2</sub> during photosynthesis (using graduated tube).

v) Evolution of CO<sub>2</sub> during aerobic respiration and measurement of volume.

## SEC A

### PLANT BREEDING AND BIOMETRY (BOT-G-SEC-A-3/5-1)

(Credits 2, Lectures 30)

#### 1. Plant breeding:

1.1 Introduction and objective, 1.2 Techniques of hybridisation.

.....2 lectures

#### 2. Mass and Pure line selection:

2.1 Procedure, 2.2 Advantages and limitations.

.....8 lectures

3. Heterosis and hybrid seed production.

.....4 lectures

4. Role of mutation, polyploidy, distant hybridization and role of biotechnology in crop improvement.

.....8 lectures

#### 5. Biometry:

5.1 Measures of central tendency (Mean, Median and Mode), 5.2 Standard error and standard deviation, 5.3 Test of significance: Chi-square test for goodness of fit.

.....8 lectures

### BIOFERTILIZERS (BOT-G-SEC-A-3/5-2)

(Credits 2, Lectures 30)

1. **Biofertilizers:** General account about microbes used as biofertilisers; *Rhizobium*-identification, mass multiplication. Actinorrhizal symbiosis.

.....4 lectures

2. ***Azospirillum***- identification, mass multiplication, associative effect of different microorganisms. *Azotobacter* and crop response to *Azotobacter* inoculums.

.....6 lectures

3. Cyanobacteria, *Azolla*, *Anabaena* and *Azolla* association, blue green algae and *Azolla* in rice cultivation.

.....6 lectures

4. **Mycorrhizal association:** 4.1 Types of Mycorrhizal association- Brief idea, 4.2 Its influence on growth and yield of crop plants.

- .....6 lectures
5. **Organic farming:** 5.1 Green manuring and organic fertilizers, 5.2 Biocompost and vermicompost- making methods and field applications. 5.3 Recycling of biodegradable municipal, industrial and agricultural wastes.

.....8 lectures

**SEC B**  
**PLANT BIOTECHNOLOGY (BOT-G-SEC-B-4/6-3)**  
**(Credits 2, Lectures 30)**

1. **Plant tissue culture-** 1.1 Introduction and basic concepts, 1.2 Cellular potency, 1.3 Callus culture and plant regeneration.

.....4 lectures

2. **Micropropagation-** 2.1 Somatic embryogenesis and artificial seed.

.....4 lectures

3. Protoplast culture and its application.

.....6 lectures

4. **Recombinant DNA technology-** 4.1 Recombinant DNA, 4.2 Restriction enzymes, 4.3 Plasmids as vectors.

.....8 lectures

5. Gene cloning (basic steps).

.....4 lectures

6. **Achievements in crop biotechnology-** 6.1 Pest resistant plant (Bt cotton), 6.2 Transgenic crops with improved quality (flavr tomato and golden rice).

.....4 lectures

**MUSHROOM CULTURE TECHNOLOGY (BOT-G-SEC-D-4/6-4)**  
**(Credits 2, Lectures 30)**

1. **Mushroom-** nutritional and medicinal value of mushrooms. Poisonous mushrooms.

.....4 lectures

2. Cultivation techniques/ technology of edible mushrooms in India: *Volvarealla volvacea*, *Pleuretus citrinopyrineatus*, *Agaricus bisporus*.

.....12 lectures

3. **Storage-** short term and long term, storage, drying.

.....6 lectures

4. **Food preparation-** types of foods prepared from mushroom. Cost and benefit ratio.

.....6 lectures

5. **Research centres-** national and regional.

.....2 lectures



**DSE A (Group A)**  
**PHYTOCHEMISTRY AND MEDICINAL BOTANY (BOT-G-DSE-A-5-1-TH)**  
**THEORETICAL**  
**(Credit 4, Lectures 60)**

1. **Medicinal botany**- History, scope and importance of medicinal plants, a brief idea about indigenous medicinal sciences- Ayurveda, Siddha and Unani. Polyherbal formulations.

.....14 lectures

2. **Pharmacognosy**- 2.1 Scope and its importance, 2.2 Primary metabolites, 2.3 Secondary metabolites- alkaloids, terpenoids, phenolics and their functions.

.....10 lectures

3. **Organoleptic** evaluation of crude drugs.

.....10 lectures

4. **Pharmacologically active constituents**: Source plants (one example), parts used and uses of: 4.1 Steroids (Diosgenin, Digitoxin), 4.2 Tannin (Catechin), 4.3 Resins (Gingerol, Curcuminoids), 4.4 Alkaloids (Strychnine, Reserpine, Vinblastine), 4.5 Phenols (Capsaicin).

.....6 lectures

5. **Ethnobotany and folk medicine**: 5.1 Brief idea, 5.2 Applications of ethnobotany, 5.3 Application of natural product to certain diseases- Jaundice, Cardiac and Diabetics.

.....20 lectures

**PRACTICAL- PHYTOCHEMISTRY AND MEDICINAL BOTANY (BOT-G-DSE-A-5-1-P)**  
**(Credit 2)**

1. Preparations of solution and buffers
2. Acquaintance with laboratory instruments- Autoclave, Incubator, Clinical centrifuge, Analytical balance, pH meter, Colorimeter, Water bath, Distillation plant, Laminar air flow.
3. Qualitative test for proteins and carbohydrates, reducing and non reducing sugar (glucose, fructose and sucrose)
4. Tests (chemical) for tannin and alkaloid
5. Identification of medicinal plants (list to be provided)
6. Field study (local) and listing of medicinal plants. Records to be substantiated with photographs and description.

## **NATURAL RESOURCE MANagements (BOT-G-DSE-A-5-2-TH)**

### **THEORETICAL**

**(Credits 4, Lectures 60)**

1. Natural resources- definition and types.  
.....2 lectures
2. Sustainable utilization- concept, approaches (economic, ecological and socio-cultural).  
.....10 lectures
3. Land utilization. Soil degradation and management.  
.....8 lectures
4. Water, fresh water marine, estuarine. Wetlands- threats and management.  
.....10 lectures
5. Biological resources, biodiversity- definition and types. Significance, threats and management strategies.  
.....10 lectures
6. Forests- definition, cover and its significance (with special reference to India). Major and minor forest products.  
.....8 lectures
7. Energy- renewable and non-renewable source of energy.  
.....8 lectures
8. EIA and waste management.  
.....4 lectures

## **PRACTICAL- NATURAL RESOURCE MANagements (BOT-G-DSE-A-5-2-P)**

**(Credits 2)**

1. Estimation of solid waste generated by a domestic system (biodegradable and non-biodegradable) and its impact on land degradation.
2. Measurement of dominant woody species by DBH (diameter at breast height)
3. Study of community structure by Quadrat method and determination of minimal size of quadrat, frequency density and abundance of components to be done during field visit.
4. Measurement of dissolved O<sub>2</sub> by azide modification of Winkler's method.
5. Determination of chemical properties of soil by rapid spot test (carbonate, iron, nitrate)

**DSE B**  
**ECONOMIC BOTANY (BOT-G-DSE-B-6-3-TH)**  
**THEORETICAL (Credits 4, Lectures 60)**

1. Origin of cultivated plants: 1.1 Concepts of centres of origin and their importance with reference to Vavilov's work.  
.....12 lectures
2. Rice- origin, morphology and uses.  
.....12 lectures
3. Legumes: General account with special reference to *Vigna*.  
.....8 lectures
4. Beverages: Tea- morphology, processing and uses.  
.....12 lectures
5. Study of the following economically important plants (Scientific names, families, parts used and importance): 5.1 Cereals- Rice, wheat, 5.2 Pulses- Mong, gram, 5.3 Spices- Ginger, cumin, 5.4 Beverages- Tea, coffee, 5.5 Medicinal plants- Cinchona, neem, Ipecac, Vasaka, 5.6 Oil yielding plants- Mustard, groundnut, coconut, 5.7 Vegetables- Potato, raddish, bottle gourd, cabbage, 5.8 Fibre yielding plants- Cotton, jute, 5.9 Timber yielding plants- Teak, Sal 5.10 Fruits- Mango, apple, 5.11 Sugar yielding plant- Sugarcane.  
.....16 lectures

**PRACTICAL- ECONOMIC BOTANY (BOT-G-DSE-B-6-3-P)**  
**(Credits 2)**

1. Study of economically important plants (rice/jute/ tea) through herbarium specimens and field study.
2. Study of cultivation practices in field and submission of report.
3. Study of local economically important plants and submission of report with photographs.

**HORTICULTURAL PRACTICES AND POST HARVEST**  
**TECHNOLOGY (BOT-G-DSE-B-6-4-TH)**  
**THEORETICAL**  
**(Credits 4, Lectures 60)**

1. Horticulture- role in rural economy and employment generation. Urban horticulture- its scope and importance.  
.....6 lectures
2. Ornamental plants- identification and salient features of some ornamental plants (rose, marigold, gladiolus, gerberas, tube rose, carnations, cacti and succulents). Ornamental flowering trees (Gulmohor, Lagerstromia, Shimul, Coral tree and jacaranda).

.....12 lectures

3. Identification of some fruits and vegetable plants- Citrus, Banana, Papaya, Mango, Jackfruit, Chillies and cucurbits. Fruit processing- scope and benefits.

.....10 lectures

4. Horticultural techniques- propagation methods, application of manure, fertilizers, nutrients and PGR. Weed control. Biofertilizers and biopesticides.

.....12 lectures

5. Post harvest technology- importance of post harvest technology in horticultural practices. Harvesting and handling of fruits, vegetables and cut flower. Methods of preservation and processing.

.....10 lectures

6. Disease control and management- field and post harvest diseases of common crops. Crop sanitation, quarantine practices. Identification of common diseases and pest of fruits and vegetable crops.

.....10 lectures

**PRACTICAL- HORTICULTURAL PRACTICES AND POST HARVEST TECHNOLOGY (BOT-G-DSE-B-6-4-P)**  
**(Credits 2)**

1. Field trips to gardens, standing crop sites, nurseries, vegetable gardens, horticultural fields and cold storages.

## REFERENCES

### Suggested Readings

#### 1. General studies

1. Ganguli, H.C., Das, K.S.K. & Dutta, C.T. College Botany, Vol. I, latest Ed., New Central Book Agency
2. Ganguli, H.C. and Kar, A.K. College Botany, Vol. II, latest Ed., New Central Book Agency
3. Mukherjee, S. College Botany, Vol. III, latest Ed., New Central Book Agency
4. Uno, Storey & Moore, Principles of Botany, 2001, McGraw Hill.
5. Kenrick, P. & Crane, P. The Origin & early diversification of land plants (1997), Smithsonian Institution Press.
6. Bell, P.R. & Hensley, A.R. Green plants; their Origin & Diversity (2nd ed.), 2000, Cambridge University Press
7. Frenchel, T. The origin & early Evolution of life, 2002, Oxford University Press.
8. Hait, G., Ghosh, A. and Bhattacharya, K. A Text Book of Botany (Vols. I, II & III), 2007, New Central Book Agency
9. Lock, A.J., & Evans, D.E., Plant Biology, 2001, Viva Books
10. Chatterjee, T., Santra, S.C. and Das, A. Practical College Botany, New Central Book Agency

#### 2. Algae

1. Kumar, H.D. Introductory Phycology (2nd ed.), 1999, Affiliated East-West Press Pvt. Ltd.
2. Lee, R.E. Phycology (3rd ed.), 1999, Cambridge University Press
3. Vashishta, B.R., Sinha, A.K. & Singh, V.P. Algae (9th ed.), 2002, S. Chand & Company
4. Sambamurthy, A.S.S. A text book of Algae, 2005, I.K. International Pvt. Ltd. 22
5. Graham, L.E. & Wilcox, L.W. Algae, 2000, Prentice Hall
6. Smith, G.M. Cryptogamic Botany, Vol. 1 (2nd ed.), 1955. McGraw Hill
7. Prescott, G.W. Algae: A Review: 1969 Bishen Singh Mahendra Pal Singh
8. Fritsch, F.E. The Structure & Reproduction of Algae, 1936, Vols. I & II, Cambridge University Press

#### 3. Microbiology

1. Stainer, T.Y., Ingraham, J.L., Wheelis, M.L. & Painter, P.R. General Microbiology (5th ed.), 1986, Macmillan Education Ltd.
2. Dubey, R.C. & Maheswari, D.K. A Text Book of Microbiology, 2005, S. Chand & Company
3. Case, Funke & Tortora, G.J. Microbiology, an Introduction (Latest Ed.)
4. Jay, J.M. Modern Food Microbiology (5th ed.), 1996, Chapman & Hall
5. Madigan, M.T., Martinko, J.M. & Parker, J. Brock, Biology of Microorganisms (10th ed.), 2003, Prentice Hall
10. Hull, R. Matthew Plant Virology (4th ed.), 2002, Academic Press
6. Biswas, S.B. & Biswas, A. An Introduction to Viruses (4th ed.), 1996, Vikas Publishing House
7. Agarwal, A.K. & Parihar, P. Industrial Microbiology, 2005, Agrobios (India)

8. Power, C.B. & Dagimawata, H.F. General Microbiology, Vol. I&II, Himalaya Publishing House
9. Mitchel, R. Environmental Microbiology, Latest Ed. Wiley, N.Y.
10. Sale, A.J. Fundamental Principles of Microbiology, Latest Ed., Tata McGraw Hill
11. Banerjee, A.K. & Banerjee, N. Microbiology & Immunology, 2006, new Central Book Agency
12. Prescott & Dunn. Industrial Microbiology 18. Verma, H.N. Basics of Plant Virology (2003), Oxford and IBH

#### **4. Fungi, Lichen & Plant Pathology**

1. Dubey, H.C. An Introduction to Fungi (2nd ed.), 1990, Vikas Publishing House 23
2. Arora, D. (ed.). Hand book of Fungal Biotechnology (2nd ed.), 2003, Dekker, N.Y.
3. Sharma, P.D. Fungi & Allied Organisms, 2005, Narosa Publishing House
4. Deacon, J.W. Fungal Biology, 2006, Black Well Science Ltd.
5. Ingold, C.T. & Hudson, H.J. The Biology of Fungi 96th ed.), 1993, Chapman & Hall
6. Sharma, O.P. Text book of Fungi, Tata McGraw Hill
7. Vashista, B.R. Fungi, Latest Ed., S. Chand & Company
8. Chopra, G.L. and Verma, V.A. Text Book of Fungi, Pradeep Publications
9. Mehrotra, R.S. and Aneja, K.R. An Introduction to Mycology, Wiley Eastern Ltd.
10. Sharma, P.D. the Fungi, Rastogi Publication
11. Mehrotra, R.S. & Agarwal, A. plant Pathology (2nd ed.), 2003, Tata McGraw Hill
12. Singh, R.S. Principles of Plant Pathology (4th ed.), 2002, oxford & IBH Publishing Com.
13. Manners, J.G. Principles of Plant Pathology (2nd ed.), 1993, Cambridge University Press
14. Singh, R.S. Plant diseases, Oxford & IBH Publishing Com
15. Rangaswami, G.K. & Mahadevan, A. Diseases of Crop Plants in India, Prentice Hall
16. Sharma, P.D. Plant Pathology (2nd ed.), Rastogi Publications
17. Strange, R.N. (ed.) Introduction of plant Pathology, 2003, Wiley
18. Dube, H.C. An Introduction to Fungi (2005), Vikas Publishing House

#### **5. Bryophytes**

1. Parihar, N.S. Introduction to Embryophyta (Vol. 1 Bryophyta), Central Book Distributors
2. Shaw, A. Jonathan and Goffinet Bernard, Bryophyte Biology, 2009, Cambridge university Press
3. Rashid, A. An Introduction to Bryophyta, 1998, Vikas Publishing House
4. Chopra, R.N. & Kumar, P.K. Biology of Bryophyta, Latest Ed., Wiley Eastern
5. Puri, P. Bryophyte, Latest Ed., Atmaram & Sons
6. Vashista, B.R. Bryophyta, Latest Ed., S. Chand & Company

#### **6. Palaeobotany and Palynology**

1. Stewart, W.N. & Rothwell, G.W. Palaeobotany & Evolution of Plants, Latest Ed., Cambridge university Press

2. Agashe, S.N. Palaeobotany, Latest Ed., Oxford & IBH
3. Thomas, B.A. & Spicer, R.A. The Evolution & Palaeobotany of Land Plants, Latest Ed., Croomhelm
4. Nair, P.K. Pollen Morphology of Angiosperms, Latest Ed., Scholar Publications
5. Shivanne, K.H. Pollen Biology & Biotechnology, 2003, Oxford & IBH
6. Bhattacharya, K., Majumdar, M.R. & Gupta Bhattacharya, S. A Text Book of Palynology, 2006, New Central Book Agency.

## **7. Embryology**

1. Raghavan, V. Molecular Embryology of Flowering Plants, 1997, Camb. University Press.
2. Maheswari, P. An Introduction to Embryology of Angiosperm, Latest Ed., Tata McGraw Hill.
3. Raghavan, V. Embryogenesis in Angiosperms: A Development & Experimental Study, 1986, Cambridge University Press.
4. Bhojwani, S.S. & Bhatnagar, S.D. The Embryology of Angiosperms (4th ed.), 1989, Publishing House.

## **8. Pteridophytes**

1. Spore, K.R. The Morphology of Pteridophyte, Latest Ed. , Huchinson & Co. Ltd.
2. Rashid, A. An Introduction to Pteridophyte, Latest Ed., Vani Educational Books.
3. Vashista, P.C. Pteridophyta, Latest Ed., S. Chand & Company Pvt. Ltd.
4. Gifford, E. M. & Foster, A. S. Morphology & Evolution of Vascular Plants (3rd ed.), 1998, Freeman and Co.

## **9. Gymnosperms**

1. Sporne, K.R. The Morphology of Gymnosperms, Latest Ed., Hutchinson & Co. Ltd.
2. Vashishta, P.C. Gymnosperm, Latest Ed., S. Chand & Company Pvt.
3. Karkar, R.K. & Karkar, R. The Gymnosperms, Latest Ed.
4. Bhatnagar, S.P. & p.Moitra, A. Gymnosperm, 1997, New Age International
5. Biswas, C. & Johri, P.M. The Gymnosperm, 1997, Narosa Publishing House
6. Dutta, S.C. An Introduction to Gymnosperms (3rd ed.), 1984, Kalyani Publishers
7. Gifford, E.M. and Foster, A.S. Morphology & Evolution of Vascular Plants (3rd ed.), 1989, Freeman & Co.

## **10. Ecology & Plant Geography**

1. Shukla, R.S. & Chandel, P.S. Plant Ecology, Latest Ed., S. Chandel and Co.
2. Kumar, H.D. Modern Concept of Ecology, Latest Ed. Vikas Publishing House
3. Verma, P.S. & Agarwal, U.K. Concept of Ecology, Latest Ed., S. Chand & Company
4. Odum, F.P. Fundamentals of Ecology, Latest Ed., Saunders
5. Sharma, P.D. Elements of Ecology, Latest Ed., Rastogi Publications
6. Ambasht, R.S. & Ambasht, N.K. A Text Book of Plant Ecology, Latest Ed., CBS Publication & Distributors
7. Mani, M.S. Bio-Geography of India, Latest Ed., Springer-Verlag.

8. Krishnamurthy, K.V. An Advanced Text Book on Biodiversity, 2003, Oxford & IBH Publishing Co. Ltd.
9. Mitra, D., Guha, J.K., Chowdhury, S.K. Studies in Botany, Vol. II (7th ed.) Moulik Library.
10. Cain, Bowman, Hacker. Ecology. 2014. 3rd Ed. Sinauer Associates

## **11. Evolution**

1. Futuyma., D. Evolution. 2015. (3rd Ed.) Sinauer Associates

## **12. Anatomy**

1. Fahn, A. Plant Anatomy (4th ed.), 1990, Wiley Eastern.
2. Eames, A.J. & Mac. Daniels, L.H. An Introduction to Plant Anatomy, Latest Ed., McGraw Hill
3. Esau, K. Anatomy of Seed Plants (2nd ed.), 1977, John Wiley & Sons
4. Pandey, B.P. Plant Anatomy, Latest Ed., S. Chand & Company
5. Tayal, M.S. Plant Anatomy, Latest Ed., Rastogi Publications
6. Roy, P. Plant Anatomy, Latest Ed., New Central Book Agency
7. Morphology and Taxonomy of Angiosperms
8. Singh, G. Plant Systematics: An Integrated Approach (3rd ed.), 2016, CRC Press
9. Sambamurthy, A.V.S.S. Taxonomy of Angiosperms, 2005, I.K. International Pvt. Ltd.
10. Sivarajan, V.V. Principles of Plant Taxonomy (2nd ed.), 1991, Oxford & IBH
11. Subrahmanyam, N.S. Modern Plant Taxonomy, Latest Ed., Vikas Publishing House
12. Naik, V.N. Taxonomy of Angiosperms, Latest Ed., Tata McGraw Hill
13. Stace, C. A Plant Taxonomy & Biosystematics, Latest Ed., Arnold Publishers
14. Mitra, J.N. An Introduction to Systematic Botany & Ecology, Latest Ed., World Press
15. Dutta, S.C. systematic Botany, Latest Ed., Wiley Eastern.
16. Lawrence, G.H.M. Taxonomy of Vascular Plants Ed., Oxford & IBH.
17. Prain, D. Bengal Plants (Vol I & II), Bishen Singh Mahendra Pal Singh.
18. Jeffrey, C. An Introduction to Plant Systematics, Latest Ed., Allied Publishers Pvt. Ltd.
19. Radford. A.B. Fundamentals of Plant Systematics, Latest Ed., Harper & Row.
20. Paria, N.D. and Chattopadhyay, S.P. Flora of Hazaribagh District, Bihar, 2000 & 2001, Vol I & II, BSI, Kolkata
16. Simpson, G. Plant Systematics, 2006, Springer.
21. Bhattacharya, B. Systematic Botany, 2006, Narosa Publishing House.
22. Subramanyam, N.S. Laboratory Manual of Plant Taxonomy (2nd ed.) 1999, Vikas Publishing House.
23. Heywood, V.H. Flowering Plants of the World 1978, Oxford University Press.

## **14. Biochemistry & Plant Physiology**

1. Taiz, L., & Zeiger, E. Plant Physiology (4th ed.), 2006, Sinauer Associates, Inc. Publishers.
2. Lincoln Taiz, Eduardo Zeiger, Ian M. Møller, and Angus Murphy. Plant Physiology and Development. (6th ed.) Sinauer Associates.
3. Hopkins, W.G. & Hiiner, N.P. Introduction to Plant Physiology (3rd ed.) 2004, John Wiley & Sons.



4. Jain, V.K. Fundamental of Plant Physiology (7th ed.) 2004. S. Chand and Company.
5. Salisbury, F.B. & Ross, C.W. Plant Physiology (4th ed.), 19992, Wadsoworth Publishing Company.
6. Panday, S.N. & Sinha, B.K. Plant Physiology (4th ed.), 2006, Vikas Publishing House Pvt. Ltd.
7. Wilkins, M.B. Advances Plant Physiology. 1984, ELBS Longman.
8. Srivastava, L.M. Plant Growth and Development, 2001, Academy Press.
9. Davies P.J. (ed.) Plant Physiology: Physiology, Bio-Chemistry & Molecular Biology, Academic Press.
10. Mukherjee, S. & Ghosh, A. Plant Physiology (2nd ed.), 2005, New Central Book Agency.
11. Hames, B.D. Bio-Chemistry (2nd ed.) Viva Books.
12. Sackheim, G. Chemistry for Biology Students (5th ed.) 1996, Benjamin/Cummings
13. Raman, H. Transport Phenomenon in Plants, 1997. Narosa Publishing House.
14. Chaudhuri, D., Kar, D.K., and Halder, S.A. Handbook of Plant Biosynthetic Pthways 2008, New Central Book Agencies.
15. Mehta, S.L., Lodha, M.L. & Bane, P.V. Recent Advances in Plant Biochemistry, 1989. I.C.A.R.
16. Conn, E.E. and Stumpf, R.R. Outlines of Bio-Chemistry, Latest Ed., Wiley Eastern.
17. Singhal, G.S. Concepts of Photobiology: Photosynthesis & Photomorphogenesis, 1999. Narosa Publishing House.
18. Hall. D.O. & Rao, K.K. photosynthesis (5th ed.), 1995, Cambridge University Press.
19. Buchanon, Gruissen and Jones. Plant Physiology & Biochemistry: Biochemistry and Molecular Biology of plants, 2000, I.K. International.

#### **15. Pharmacognosy/ Medocinal Botany**

1. Trease & Evans. Pharmacognosy, Saunders.
2. Trivedi P.C. 2006. Medicinal Plants: Ethnobotanical approach, Agrobios India
3. S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur 1995.

#### **16. Cell Biology, Genetics & Molecular Biology**

1. Pierce, Benjamin A. Genetics (2nd ed.), 2005, W.H. Freeman & Company.
2. Atherly, A.G., Girton, J.R. & McDonald, J.F. Science of Genetics, 1999, Saunders College Publications.
3. Hartwell, L.H., Hood, L., Goldberg, M.L., Reynolds, A.E., Silver, L.M. & Veres, R.C. Genetics (2nd ed.), 2004, McGraw Hill.
4. Tamarin, Robert H. Principles of Genetic (7th ed., 2002, Tata McGraw Hill.
5. Elrod, S.K. & Stanfield, W. Schuam's Outlines Genetics (4th ed.), 2002, Tata McGraw Hill.
6. Hartl, D.L. & Jones, E.W. Genetics , 2005, Jones & Barlett Publishers.
7. Lewin, B. Genes VIII, 2004, Pearson Educational International.
8. Watson, J.D., Baker, T.A., Bell, S.P., Gann, A., Levine, M. & Losick, R. Molecular Biology of the Gene (5th ed.) 2004. Pearson Education Inc.

9. Griffiths, A.I.F., Miller, J.H., Suzuki, D.T., Lewentin, C.R. & Gilbert, M.W. An Introduction to Genetic Analysis, 2005 (8th ed.), W.H. Freeman & Company.
10. Brown, T.A. Genomes, 1999, John Wiley & Sons.
11. Brown, T.A. Genomes 3, 2007, Garland Science Publishing.
12. Snustad, D.P. & Simmons, M.J. Principles of Genetics (2nd ed.), 2000, (4th ed.), 2006, John Wiley & Sons.
13. Klug, W.S. & Cummings, M.R. Concepts of Genetics, 2003, Pearson Education.
14. Gerald Karp. Cell Biology. 2013. 7th Ed. International Student Version. Wiley.
15. Hawkins, J.D. Gene Structure & Expression (3rd ed.), 1996, Cambridge University Press.
16. Becker, M.W., Klemsmith, L.J. & Hardin, J. The World of the Cell (5th ed.), 2003, Pearson Education.
17. Cooper, G.M. The Cell, A molecular approach (2nd ed.), 2000, ASM Press.
18. Weaver, R.F. Molecular Biology (2nd ed./3rd ed.), 2002/2005, McGraw Hill.
19. Malacinski, G.M. Freifelder, Essentials of Molecular Biology (4th ed.), 2003, Narosa Publishing House.
20. Sambamurty, A.V.S.S. Genetics (2nd ed.), 2005, Narosa publishing House.
21. Sharma, A. & Sen, S. Chromosome Botany, 2002, Oxford & IBH Publishing.
22. Sen, S. & Kar, D.K. Cytology & Genetics, 2005, Narosa Publishing House.
23. Miglani, G.S. Advanced Genetics, 2002, Narosa Publishing House.
24. Gupta, P.K. Genetics, 2007, Rastogi Publications.
25. Jain, H.K. Genetics, 1999, Oxford & IBH Publishing Company.
26. Swanson, C.P., Merz, T. & Young, W.J. Cytogenetics, 1981, Prentice Hall.
27. Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K. & Walter, P. Molecular Biology of the Cell, 2002 (4th ed.), Garland Sciences.
28. Gardner, E.J., Simmons, M.J. & Snustad, D.P. Principles of Genetics (8th ed.) 1991, John Wiley & Sons.
29. Kar, D.K. and Halder, S. Cell Biology, Genetics and Molecular Biology 2008, New Central Book Agency.
30. Roy, S.C. and De, K.K. Cell Biology, 1997, New Central Book Agency.
31. Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, Peter Walter. Molecular Biology of the Cell. 2015. 6th Ed: Garland Science.

### **17. Plant Breeding & Biometry**

1. Chaudhuri, H.K. Elementary Principles of Plant Breeding, Latest Ed., Oxford & IBH.
2. Allaed, R.W. Principles of Plant Breeding, 1960, John Wiley & Sons.
3. Singh, B.D. Plant Breeding, Principles & Methods (7th ed.), 2005, Kalyani Publishers.
4. Roy, D. Plant Breeding: Analysis & Exploitation of Variation, 2000, Narosa Publishing House.
5. Kar, D.K. and Halder, S. Plant Breeding & Biometry, 2006, New Central Book Agency.
6. Dutta, Animesh K. Basic Biostatistics & its Application 2006, New Central Book Agency.

### **18. Plant Biotechnology**

1. Chawla, H.S. An Introduction to Plant Biotechnology (2nd ed.), 2002, Oxford & IBH
2. Walker, J.M. & Rapley, R. Molecular Biology & Biotechnology, 2000, Royal Society of Chemistry Publishing House
3. Dubey, R.C. Biotechnology, Latest Ed., S.Chand & Company Pvt. Ltd.
4. Bhojwani, S.S. & Razdan, M.I. Plant Tissue Culture: Theory and Practise, Elsevier
5. Rajdan, M.K. An Introduction to Plant Tissue Culture, Latest Ed., Oxford & IBH
6. Jha, T.B. & Ghosh, B. Plant Tissue Culture, 2003, Universities Press
7. Singh, B.D. Biotechnology Latest ed., Kalyani Publishers.
8. Kar, D.K. & Halder, S. Plant Breeding, Biometry & Biotechnology, 2010, New Central Book Agency
9. Gupta, P.K. Biotechnology & Genomes, latest Ed., Rastogi Publications
10. Slatter, A., Scott, N. & Fowler, N. Plant Biotechnology, 2003, Oxford University Press
11. Dey, K.K. Plant Tissue Culture, 1992, New Central Book Agency

#### **19. Resource methodology**

1. Dawson, C. (2002). Practical research methods. UBS Publishers, New Delhi.
2. Stapleton, P., Yondeowei, A., Mukanyange, J., Houten, H. (1995). Scientific writing for agricultural research scientists – a training reference manual. West Africa Rice Development Association, Hong Kong.
3. Ruzin, S.E. (1999). Plant microtechnique and microscopy. Oxford University Press, New York, U.S.A.

#### **20. Biofertilizers**

1. Dubey, R.C., 2005 A Text book of Biotechnology S.Chand & Co, New Delhi.
2. Kumaresan, V. 2005, Biotechnology, Saras Publications, New Delhi.
3. John Jothi Prakash, E. 2004. Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
4. Sathe, T.V. 2004 Vermiculture and Organic Farming. Daya publishers.
5. Subha Rao, N.S. 2000, Soil Microbiology, Oxford & IBH Publishers, New Delhi.
6. Vayas, S.C., Vayas, S. and Modi, H.A. 1998 Bio-fertilizers and organic Farming, Akta Prakashan, Nadiad.

#### **21. Mushroom culture technology**

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
2. Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
3. Tewari, Pankaj Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.
4. Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

<u>Sl. No.</u>	<u>Subject</u>	<u>Sl. No.</u>	<u>Subject</u>
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

# **UNIVERSITY OF CALCUTTA**

## **PHYSIOLOGY (HONS.) SYLLABUS FOR CBCS**

### **CORE COURSES(CC)**

#### **Semester 1**

- CC--1.** Cellular Basis of Physiology ,Genetics & Enzymes
- CC--2.** Biophysical Principles and Chemistry of Biomolecules

#### **Semester 2**

- CC--3.** Cell Signalling & Nerve-muscle Physiology
- CC--4.** Nervous System

#### **Semester 3**

- CC--5.** Blood and Body Fluids
- CC--6.** Cardiovascular System
- CC--7.** Respiratory System

#### **Semester 4**

- CC--8.** Digestion and Metabolism
- CC--9.** Molecular Biology
- CC--10.** Nutrition and Dietetics Public Health

#### **Semester 5**

- CC--11.** Special Senses
- CC--12.** Endocrinology

#### **Semester 6**

- CC--13.** Reproductive Physiology & Developmental Biology
- CC--14.** Excretory Physiology

### **GENERIC ELECTIVE (GE)**

GE- 1 is equivalent to CC-1 of one general subject in Semester 1

GE- 2 is equivalent to CC-2 of one general subject in Semester 2

GE- 3 is equivalent to CC-3 of one general subject in Semester 3

GE- 4 is equivalent to CC-4 of one general subject in Semester 4

### **Discipline Specific Electives (DSE)**

**DSE -- A (ONE course in Semester 5 & ONE course in Semester 6)**

1. Biostatistics
2. Microbiology & Immunology

3. Ergonomics
4. Community and Public Health

**DSE - B (ONE course in Semester 5 & ONE course in Semester 6)**

1. Chronobiology and Stress Physiology
2. Advanced Molecular Biology and Nanotechnology
3. Toxicology and Pharmacology
4. Work, Exercise and Sports Physiology

## **Ability Enhancement Compulsory Courses(AECC)**

**AECC- 1:** Communicative English or any other Modern Indian Language in Semester 1

**AECC-2:** Environmental Studies in Semester 2

## **Skill Enhancement Course (SEC)**

**SEC -- A (ONE course in Semester 3)**

1. Hematological Techniques
2. Clinical Biochemistry

**SEC -- B (ONE course in Semester 4)**

- 1.. Detection of Food Additives /Adulterants and Xenobiotics
2. Bio-Medical Technology and Bioinformatics

# UNIVERSITY OF CALCUTTA

## PHYSIOLOGY (HONS.) SYLLABUS FOR CBCS

### Credit Distribution Across Courses

COURSE TYPE	TOTAL PAPERS	CREDITS
		THEORY+ PRACTICAL
Core Courses	14	14X4=56 14X2=28
Discipline Specific Electives	4	4X4=16 4X2=8
Generic Electives (Contents of the Syllabus to be found in the 'General Course Syllabus' for the respective subjects)	4	4X4=16 4X2=8
Ability Enhancement Language Courses	2	2X2=4
Skill Enhancement Courses	2	2X2=4
<b>TOTALS</b>	<b>26</b>	<b>140</b>

### Core Courses

1. Cellular Basis of Physiology ,Genetics & Enzymes
2. Biophysical Principles and Chemistry of Biomolecules
3. Cell Signalling & Nerve-muscle Physiology
4. Nervous System
5. Blood and Body Fluids
6. Cardiovascular System
7. Respiratory System
8. Digestion and Metabolism
9. Molecular Biology
10. Nutrition and Dietetics
11. Special Senses
12. Endocrinology
13. Reproductive Physiology& Developmental Biology
14. Excretory Physiology

## Outline of Courses and Credits in each Semester

### Semester I

#### CC1TH.

##### Cellular Basis of Physiology

**Cell Structure and function**--Electron microscopic structure and functions of Nucleus, endoplasmic reticulum, ribosomes, Golgi bodies, mitochondria, lysosomes, peroxisomes, cytoskeletal elements, centrosomes and plasma membrane.

**Cellular transport**—Passive and active transport. Ion channels, ionophores.

□ **Intercellular communication**--- Basic idea of tight junctions, gap junctions, adherens junctions, desmosomes and cell adhesion molecules. Extracellular matrix components.

#### Genetics

**Chromosome Structure**-- Morphology. Chromosomal DNA packaging-nucleosomes and higher level of organisation of chromatin. Euchromatin and heterochromatin..Human genome and its characteristics. Mitochondrial DNA. Epistasis, Penetrance, Expressivity, Pleiotropism. Karyotyping.

□ **Cell cycle** – Events and regulatory role of cyclin. Cell division- Mitosis & Meiosis- phases and significance. Crossing-over, Linkage.

#### □ Enzymes

Classification-EC nomenclature, Concept of apoenzyme, holoenzyme, coenzyme, cofactors and prosthetic group. Mechanism of enzymes. Concept of initial rate, maximum velocity and steady-state kinetics. Michaelis constant, Michaelis-Menten equation, Graphical representation of hyperbolic kinetics-- Lineweaver-Burk plot. Significance of  $K_m$  and  $V_{max}$ . Factors influencing enzyme-catalyzed reactions : substrate concentration, enzyme concentration, pH, temperature. Competitive, noncompetitive and uncompetitive inhibitions. Regulation of enzyme activities--covalent modifications, allosteric modifications: K- and M- series. Feed-back inhibition. Rate-limiting enzymes. Isozymes, Ribozymes and Abzymes. (4)

#### CC1P.

1. Study of various stages of meiosis from grasshopper testis
2. Cell viability study by Trypan blue staining
3. Osmotic fragility test of goat blood R.B.C
4. Staining of adipose tissue using Sudan III or IV.

(2)

#### CC2TH.

##### Biophysical Principles

□ **Diffusion** :Its characteristics, factors influencing and physiological



applications.

□ **Osmosis**: Osmotic pressure – laws, determination – freezing point depression method and physiological applications.

□ **Surface tension & viscosity**:-- Physiological applications.

□ **pH & Buffer**- Henderson Hasselbach- equation (quantitative problems). Determination of pH.

□ **Colloids** :Classification, properties – optical, electrical, electrokinetic. Physiological importance of colloids.

□ **Gibbs-Donnan membrane equilibrium**.

□ **Thermodynamics** :Type of surroundings and systems. First Law– Internal energy, enthalpy. Second Law – Entropy, Free energy change, Endergonic and Exergonic reactions, Reversible and Irreversible processes, Equilibrium constant. Physiological steady-state, Living body as a thermodynamic system.

#### . Instruments

**Principles of construction, uses and advantages and disadvantages** : Compound microscope, Phase contrast microscope, Fluorescence microscope, Polarizing microscope, Confocal microscopy, Transmission and Scanning electron microscope. Photoelectric colorimeter, Spectrophotometer and pH meter.

□ **Carbohydrates** :Definition and classification. *Monosaccharides*–

Classification, structure, stereoisomerism, optical isomerism, optical activity, epimerism. Cyclic structures- Pyranose and furanose forms, anomerism, mutarotation and its mechanism. Chemical reactions of monosaccharides (Glucose & Fructose) ---- Reactions with concentrated mineral acids, alkali, phenylhydrazine and their biochemical importance. Derivatives of monosaccharides -----Amino sugars, deoxy sugars, sugar alcohols, sugar acids, sugar esters, their biochemical and physiological importance.

*Disaccharides* – Maltose, Lactose and Sucrose : Structure, Occurrence and Physiological importance.

*Polysaccharides* – Starch, Glycogen, Dextrin, Cellulose, Glycosaminoglycans, Glycoproteins, Sialic acids.

□ **Lipids** :Definition and classification. Fatty acids - Classification, systemic nomenclature and structure. Mono-, Di- and Triglycerides. Properties of Fat and Fatty acids Hydrolysis, Saponification number, Iodine number, Acetyl number, Acid number, Reichert-Meissl number. Cis-trans isomerism. Eicosanoids, Phospholipids, Glycolipids, Sphingolipids, Cholesterol & its ester ---- their structure and physiological importance. Lipoproteins - Structure and classification.

□ **Amino acids** :Classification, Structure, Nomenclature and Optical properties. Protonic equilibria of amino acids – Zwitterions, Isoelectric point, titration curve of amino acids. Reactions with ninhydrin and formaldehyde.

□ **Peptides and Proteins** :Structure and properties of peptide bonds -- Phi and Psi angles. Reactions with Sanger's and Edman's reagent. Biuret reaction. Different levels of protein structure -- Primary, Secondary ( $\alpha$ -helix and  $\beta$ -pleated sheet), Tertiary and Quarternary. Forces stabilizing the structures. Denaturation and Renaturation.

□ **Purine and Pyrimidine** :Structure, nomenclature and tautomerism.

□ **Nucleic acids** : Nucleosides and Nucleotides -- structure. Polynucleotides. DNA double helix --- Primary, Secondary and Tertiary structure. A-DNA, B-DNA and Z-DNA. RNA - Structure and types. Denaturation and annealing of DNA. Hyperchromicity, melting temperature and half Cot value. (4)

### **CC2P.**

1. Qualitative tests for the identification of physiologically important substances: Hydrochloric acid, Lactic Acid, Uric Acid, Albumin, Gelatin, Peptone, Starch, Dextrin, Glucose, Fructose, Lactose, Sucrose, Urea, Acetone, Glycerol and Bile salts
2. Preparation Of Buffer and pH measurement. . (2)

## **Semester II**

### **CC3TH.**

#### **Cell Signalling :**

Cell surface receptor proteins – ion channel coupled, G-protein coupled and enzyme-coupled. Intracellular messengers – cAMP, cGMP, IP<sub>3</sub>, DAG, Protein kinases, Ca<sup>2+</sup>, CO, NO. Signal transduction pathways: Phosphatidylinositides, MAP kinase, JAK-STAT, SMAD.

#### □ **Nerve :**

Structure, classification and functions of neurons and neuroglia. Cytoskeletal elements and axoplasmic flow. Myelinogenesis. The resting membrane potential. The action potential. Electrotonic potentials. Current of injury. Propagation of nerve impulse in different types of nerve fibers. Compound action potentials. Properties of nerve fibers : excitability, conductivity, all or none law, accommodation, adaptation, summation, refractory period, indefatigability. Chronaxie, rheobase and utilization time. Synapses : types, structure, synaptic transmission of the impulse, synaptic potentials, neurotransmitters, cotransmitters, neuromodulators. The neuromuscular junction : structure, transmission, end-plate potential, MEPP, post-tetanic potentiation. Motor unit. Motor point. Injury to peripheral nerves – degeneration and regeneration in nerve fiber, changes in the nerve cell body, transneuronal degeneration, changes in receptors and motor end-plates, denervation hypersensitivity. Thermal changes of nerve during activity. Nerve growth factors.

#### □ **Muscle:**

Microscopic and electron microscopic structure of skeletal, smooth and cardiac muscles. The sarcotubular system. Red and white striated muscle fibers. Single-unit and multi-unit smooth muscle. Muscle groups : antagonists and agonists. Properties of skeletal muscle: excitability, contractility, all or none law, summation of stimuli, summation of contractions, effects of repeated stimuli, genesis of tetanus, onset of fatigue, refractory period, tonicity, conductivity, extensibility and elasticity. Optimal load, optimal length of fibers. Muscle proteins. Mechanism of skeletal and smooth muscle contraction and relaxation : Excitation-contraction coupling. Dihydropyridine receptors & Ryanodine receptors. Mechanical components of muscle. Isometric and isotonic contractions – muscle length,

tension and velocity relationships. Chemical, thermal and electrical changes in skeletal muscle during contraction and relaxation. Electromyography. (4)

### **CC3P.**

1. Staining of isolated nerve fiber by silver nitrate method.
2. Staining of skeletal & cardiac muscle by methylene blue.
3. Staining of collagen in tissue sections.

(2)

### **CC4TH.**

## **The Nervous System**

☐ Structural organization of different parts of brain and spinal cord. Reflex action – definition, reflex arc, classification and properties.

☐ **Autonomic nervous system** :organization, outflow, ganglia, centers and functions. Chemical transmission in autonomic nervous systems.

☐ **CSF**: Formation, circulation and functions. Blood-CSF and Blood-Brain barrier.

☐ **Ascending and descending tracts** :origin, courses, termination and functions.

☐ **Functions of the spinal cord** with special reference to functional changes following hemisection and complete section of spinal cord. Pain production, perception and regulation. Referred pain.

☐ **Muscle spindle and golgi tendon organ**: their structure, innervations and functions, postural reflexes. Decorticate, decerebrate rigidity and spinal animal.

☐ **Brain**: Structure, nerve connections and functions of brainstem, cerebellum, reticular formation, hypothalamus, thalamus, basal nuclei and cerebral cortex- Speech and aphasia.

Structure and functions of vestibular apparatus.

☐ **Limbic system**: Structure, connections and functions.

Physiology of sleep, learning, memory, and emotion.

Cerebral circulation & stroke.

Principles,uses, advantages and disadvantages of CT scan, MRI and PETscan

**Molecular neurobiology** : General concept of ionotropic and metabotropic receptors. Structure, sub-types and functions of nicotinic and muscarinic acetylcholine receptors, adrenoceptors, glutamate receptors (NMDA and AMPA receptors), GABA, opiate, serotonin, dopamine and histamine receptors. (4)

### **CC4P.**

1. Basic concepts of brain imaging. Identification of different structures of

human brain using CT scan and MRI images.

2. Study and use of Kymograph, induction coil, key, Gastrocnemius-sciatic nerve preparation and kymographic recording of isotonic muscle twitch, effects of successive stimuli and load (afterload) on muscle twitch. (2)

## **Semester III**

### **CC5TH.**

#### **Physiology of Blood and Body Fluids**

**Bone marrow:** Formed elements of blood—origin, formation, functions and fate.

**Plasma proteins** Origin and functions.

**Erythropoiesis** Role of erythropoietin and leucopoiesis.

**Haemoglobin** :Structure, reactions, biosynthesis and catabolism. Foetal haemoglobin. Abnormal haemoglobins- Sickle-cell anemia and Thalassemia.

**Blood volume** :Regulation and determination by dye and radioisotope methods.

**Hemostasis** :Factors, mechanism, anticoagulants, procoagulants. Disorders of hemostasis- Hemophilia, Thrombosis and Embolism.

**Blood group** :ABO and Rh systems (Chemical nature of relevant biomolecules). Erythroblastosis foetalis. Blood transfusion and its hazards.

**Lymph and tissue fluids** :Formation, circulation, functions and fate.

**Lymphatic organs** :Histological structures and functions of lymph gland and spleen. Splenomegaly causes and effects.

**Circulatory disorder** : Oedema.

(4)

### **CC5P.**

**1.Haematological experiments** :Preparation and staining of blood film with Leishman's stain. Identification of blood cells. Total count of W.B.C and R.B.C .Differential count of W.B.C. Haemoglobin estimation by Sahli's hemoglobinometer. Preparation of haemin crystals.

Preparation and staining of bone marrow. Measurement of diameter of megakaryocytes. Reticulocyte staining.

(2)

### **CC6TH**

#### **. Cardiovascular System**

Anatomy of the heart. Properties of cardiac muscle. Origin and propagation of cardiac impulse. Heart Block.

**Cardiac cycle** :Pressure and volume changes. Heart sounds. Murmurs.

**Cardiac output** :Measurement by application of Fick's principle & factors affecting.

Starling's law of heart.

**Electrocardiography**: The normal electrocardiogram, electrocardiographic leads, vectorial analysis, the vectorcardiogram and the mean electrical axis of heart. The His bundle electrogram.

Principles of Echocardiography.

Cardiac Arrhythmias &. Myocardial Infarctions.

**The pulse**: Arterial and venous.

Hemodynamics of blood flow.

Cardiac and vasomotor centers, baroreceptors and chemoreceptors, innervation of the heart and blood vessels, cardiac and vasomotor reflexes.

Cardiovascular homeostasis – neural and chemical control of cardiac functions and blood vessels.

Atherosclerosis. Coronary Circulation.

**Blood pressure:** Its measurement and factors affecting. Cardiovascular adjustment after haemorrhage. (4)

#### **CC6P.**

**1. Cardiovascular Physiology Experiments :** Determination of Blood pressure by Auscultatory Method. Determination of mean pressure, pulse pressure and pulse rate. Preparation of Amphibian Ringer Solution. Interpretation of Kymographic recording of the movements of perfused heart of toad and the effects of acetylcholine and adrenaline on the contraction of heart. ECG. (2)

#### **CC7TH.**

##### **Respiratory System**

**Anatomy and histology** of the lung and airways.

**Mechanics of breathing :** Role of respiratory muscles, glottis. Compliance of lungs and chest wall, pressure-volume relationships, alveolar surface tension and surfactant, work of breathing.

**Spirometry:** Lung volumes and capacities. Dead space.

**Pulmonary Circulation :** Ventilation- perfusion ratio.

**Transport of gases in body :** Partial pressure and composition of normal atmospheric gases in inspired, expired, alveolar air and blood. Oxygen dissociation curve of hemoglobin and myoglobin – factors affecting. Carbon dioxide dissociation curve. Regulation of respiration -- neural and chemical, respiratory centers, chemoreceptors, baroreceptors, pulmonary receptors.

**Disorders of Breathing :** Hypoxia : Types & effects. Asphyxia, Voluntary hyperpnoea, Apnoea, Cyanosis, Periodic breathing, Asthma, Emphysema. Non-respiratory functions of lung. (4)

#### **CC7P.**

**1. Respiratory Human Experiments:** Pneumographic recording of effects of hyperventilation, breath-holding and talking. Lung function tests using Spirometry (Digital) and analysis of the results. (2)

### **Semester IV**

#### **CC8TH.**

##### **Digestion**

Anatomy and histology of alimentary canal.

Digestive glands – histological structures of salivary glands, pancreas, liver.

Deglutition. Movements of alimentary canal and their regulations.

Composition, functions and regulation of the secretion of salivary, gastric,

pancreatic and intestinal juices and bile. Enterohepatic circulation. Digestion and absorption of carbohydrates, lipids, proteins and nucleic acids. Defecation. GALT. Basic concepts of Peptic Ulcer, Jaundice and Gallstones.

### **Metabolism**

Redox potential. Mitochondrial Electron Transport Chain. Oxidative phosphorylation- inhibitors and uncouplers.

**Carbohydrate** :Glycolysis, R-L cycle. TCA cycle, Gluconeogenesis - Cori cycle, Anaplerotic reactions and Amphibolic nature of TCA cycle. Pentose phosphate pathway. Glycogenesis and Glycogenolysis.

**Lipid:**  $\beta$ -oxidation and biosynthesis of saturated and monounsaturated fatty acids. Biosynthesis of lecithin. Biosynthesis of Cholesterol. Ketone body metabolism.

*Hormonal regulation of the above mentioned biochemical pathways not required.*

**Amino acids:** Amino acids - Amino acid pool. Deamination, transamination, amination and decarboxylation. Synthesis of Urea and Nitric oxide. Glucogenic andketogenic amino acids. Metabolism of glycine, methionine, tryptophan and phenylalanine.

**Purines and Pyrimidines**– Biosynthesis :*de novo* and salvage pathways. Catabolism.

*Regulation of the above mentioned biochemical pathways/cycle not required.(4)*

### **CC8P.**

□ **1.Dale's Experiment** :Kymographic recording of normal movements of rat's intestine using Dale's apparatus and effects of acetylcholine and adrenaline on normal intestinal movements of rats..

#### **2.Biochemical estimations:**

Quantitative estimation of amino nitrogen by Sorensen's formol titration method (percentage as well as total quantity to be done). **(2)**

### **CC9TH.**

#### **Molecular Biology**

□ DNA replication—Meselson and Stahl Experiment, DNA Polymerases, Ligases and other regulatory proteins. Transcription – RNA Polymerase and other regulatory mechanism in prokaryotes.Genetic code – properties and wobble hypothesis. Translation – codon-anticodon interaction and mechanism in prokaryotes. Regulation of gene expression : operon concept – the lac operon. Gene mutation – agents and types. DNA repairing processes. Concept of oncogenes and properties of cancer cells. Recombinant DNA technology in brief and its applications – gene therapy, transgenic animal.

**Methodologies** : Chromatography: Principles and uses of : TLC, Gel filtration, Affinity chromatography,ion-exchange chromatography. Electrophoresis: Principles and method, uses of Agarose gel electrophoresis, SDS – PAGE. Ultracentrifugation: moving boundary

and density gradient ultracentrifugation. Radioactivity – Classification and properties. Their use – radiolabelling of biomolecules and its detection by autoradiography. Principles of RIA, ELISA. Western, Northern and Southern blotting techniques. Polymerase chain reaction-basic concept. (4)

#### **CC9P.**

##### **Biochemical estimations:**

###### **1. Colorimetric methods—**

i) Estimation of serum protein by Lowry method and serum albumin by Bromocresol green dye method and calculation of A/G ratio. ii) Estimation of blood glucose by Folin–Wu method. (iii) Estimation of serum urea by DAM method.

###### **2. Thin layer chromatography.**

(2)

#### **CC10TH.**

##### **Nutrition and dietetics**

□ **Vitamins:** Thiamin, Riboflavin, Niacin, Pyridoxine, Pantothenic Acid, Biotin, Cyanocobalamin, Folic Acid, Ascorbic Acid, Inositol. Vitamins A, D, E and K. Dietary sources, daily requirements, biochemical functions, deficiency symptoms, hypervitaminosis, antivitaminosis.

□ **Minerals:** Sources, biological functions of sodium, potassium, calcium, phosphorus, iron, zinc, iodine and fluoride.

□ **SDA, RQ and BMR :** Factors affecting. Determination of BMR.

□ **Fuel Values of Food.** Body calorie requirements – adult consumption unit.

Dietary requirements of carbohydrate, protein, lipid and other nutrients.

Balanced diet and principles of formulation of balanced diets for adult man, adult woman, lactating woman and pregnant women.. Nitrogen balance. Protein spacers. Supplementary value of proteins. Biological value of proteins. Net protein utilization. Protein efficiency ratio. Dietary fibers. (4)

#### **CC10P.**

##### **□ Nutrition and Dietetics :**

1. Composition and nutritional value of common foodstuff.

2. Diet survey report of a family as per ICMR specification.

3. Qualitative analysis of milk, potato, flour, rice, pulses.

(2)

## **Semester V**

#### **CC11HT:**

##### **Special Senses**

Characteristics of special senses, Sensory Coding -- Weber-Fechner law, Steven's power law.

**Vision:** Structure of eyeball. Histological details of retina, peripheral retina, fovea and blind spot. Retinal detachment. Visual pathway and centers.

Effects of lesion in visual pathway. Mechanism of accommodation. Errors of refraction and their corrections. Formation and Circulation of Aqueous

Humour. Cataract and Glaucoma. Photopic and scotopic vision. Chemical and electrical changes in retina on exposure to light. Visual processing in the retina. Positive and negative after- images. Contrast phenomenon. Light and dark adaptation. Colour vision—Trichromatic, Single and Double Opponent mechanism. Colour blindness. Visual field-- perimetry. Visual acuity – measurement, mechanism and factors affecting. Critical fusion frequency- Ferry-Porter law.

**Hearing** :Structure and functional significance of auditory apparatus. Organ of Corti. Auditory pathways and centers. Mechanism of hearing – Excitation of Hair Cells, Conversion of Sound Waves into Action Potentials in the Auditory Nerve. Mechanism of discrimination of sound frequencies and intensities. Localization of sound source. Deafness.

**Olfaction and Gustation**: Structure and functions of the receptor organs, nerve pathways, Centers. Signal Transduction of olfactory and gustatory stimuli. Olfactory and Gustatory Coding. Abnormalities of olfactory and taste sensation. (4)

### CC11P.

1. Determination of Visual Acuity by Snellen's Chart
2. Determination of Colour Blindness by Ishihara Chart.
3. Determination of Deafness by Tuning Fork Tests.
4. Study and identification of stained sections of different mammalian tissues and organs: Cardiac muscle, Skeletal muscle, Smooth muscle, Trachea, Lung, Hyaline cartilage, Artery, Vein, Cerebellum, Cerebral cortex, Spinal cord,
5. Silver nitrate preparation of corneal cell space. (2)

### CC12TH.

#### Endocrinology

**Hypothalamus** as a neuroendocrine organ. Anterior and posterior pituitary -- histological structure of the gland. Chemical nature, molecular mechanism of action, functions and regulation of secretion of their hormones. Hypo- and hyperactive states of the gland.

**Pineal gland** – Histological structure. Chemical nature, biosynthesis, molecular mechanism of action, functions and regulation of secretion of melatonin.

**Thyroid and Parathyroid** -- Histological structure of the glands. Chemical nature, molecular mechanism of action, functions and regulation of secretion of the hormones. Hypo- and hyperactive states of the glands.

**Adrenal cortex and medulla** -- Histological structure of the gland. Chemical nature, molecular mechanism of action, functions and regulation of secretion of the hormones. Biosynthesis of catecholamines. Hypo- and hyperactive states of the gland.

**Heart** as an endocrine organ.

**Pancreatic islets** -- Histological structure. Chemical nature, molecular mechanism of action, functions and regulation of secretion of the hormones. Hormonal control of blood sugar. Hyperinsulinism and diabetes mellitus.

**Gastro-intestinal hormones** -- Chemical nature, molecular mechanism of action, functions and regulation of secretion of the hormones. (4)



**CC12P.**

1. Study of Effects of Oxytocin and Adrenaline on uterine contractions of albino rat.
2. Study and identification of stained sections of different mammalian tissues and organs: Parotid gland, Submaxillary gland, Sublingual gland, Tongue, Oesophagus, Stomach, Duodenum, Jejunum, Ileum, Large intestine and Liver. (2)

**Semester VI****CC13TH.****Reproductive Physiology**

Primary and accessory sex organs and secondary sex characters. Histology of testis. Endocrine functions of testis. Spermatogenesis. Hypothalamic control of testicular functions. Histology of ovary. Ovarian hormones and their functions. Oogenesis and ovulation. Formation and functions of corpus luteum. Hypothalamic control of ovarian functions. Physiology of puberty. Menstrual cycle and its regulation. Abnormalities in menstrual cycle. Onset of menopause and postmenopausal changes. Structure and functions of placenta. Maintenance of pregnancy and the bodily changes during pregnancy. Parturition. Pregnancy tests. Development of mammary glands, lactation and their hormonal control.

**Developmental Biology**

**Stem cell** : Characteristics and applications. Totipotency, Differentiation.

**Ultra structure** : Sperm and Ovum. **Fertilization, Blastulation, Implantation, Gastrulation** (Concept of induction, determination and differentiation).

**Organogenesis** : Development of Heart, urinary system and genital system.

**Fetal Circulation.** (4)

**CC13P.**

1. Study and identification of stained sections of different mammalian tissues and organs: Kidney, Ureter, Skin, Uterus, Testis, Ovary, Thyroid gland, Pancreas, Spleen, Lymph gland.
2. Pregnancy Test by immunological method using kit.
3. Silver nitrate preparation of urinary bladder for study of cell spaces. (2)

**CC14TH.****Excretory System, Environmental Pollutants and Human Health**

**Kidney** : Anatomy of kidney. Histology of nephron. Renal circulation – peculiarities and autoregulation. Formation of urine – glomerular function and tubular functions. Counter-current multiplier and exchanger. Renal regulation of osmolarity and volume of blood fluids. Diabetes insipidus. Formation of hypertonic urine. Renal regulation of acid-base balance, acidification of urine. Renal function tests – creatinine, inulin, urea, and PAH clearance tests. Physiology of urinary bladder and micturition. Constituents of urine. Abnormal constituents of urine, and pathophysiological significance. Renal dialysis. Non-excretory functions of kidney.

**Skin and Body Temperature Regulation** :Structure and functions of skin. Cutaneous circulation. Sweat glands –structure and composition of sweat. Mechanism of sweat formation, secretion and its regulation. Insensible perspiration. Regulation of body temperature in homeotherms – its physical and physiological processes, roles of neural and hormonal processes. Pyrexia, hyperthermia and hypothermia.

**Environmental Pollutants and Human Health** : Sources and effects of Chlorinated hydrocarbons, Organophosphorus, Organocarbamates, Lead, Arsenic, Fluorine, Aluminium, Ionizing and non-ionizing radiations. **(4)**

#### **CC14P.**

1. Identification of normal and abnormal constituents of urine.
2. Staining and identification of histological sections of liver, adrenal gland, thyroid gland, ovary, testes, and kidney. **(2)**

#### **Suggested Readings**

1. Text book of Medical Physiology, by A.C. Guyton. W.B. Saunders Co.
2. Best & Taylor's Physiological Basis of Medical Practice, O.P.Tandon & Y.Tripathi, Lippincott Williams & Wilkins
3. Ganong's Review of Medical Physiology. Barrett *et.al*, McGraw Hill Lange
4. Harper's Illustrated Biochemistry, V.W. Rodwell and others, Lange
5. Lehninger's Principles of Biochemistry. By D.L. Nelson and M. M. Cox, Worth Publishers Inc.
6. Textbook of Medical Physiology, D.Venkatesh & H.H.Sudhakar, Wolters Kluwer
7. Text Book of Biochemistry, by E.S. West. W.R. Todd. H.S. Mason. J.T. Van Bruggen. The Macmillan Company.
8. Biochemistry, D.Das, Academic Publishers.
9. Biophysics and Biophysical Chemistry, D.Das. Academic Publishers.
10. Samson Wright's Applied Physiology, C.A. Keele. E Neil & N. Toels. Oxford University Press.
11. Physiology, R.M. Berne & M.N. Levy, C.V. Mosby Co.
12. Basic Histology, L.C. Junqueira & J Carneiro, McGraw- Hill .
13. diFiore's Atlas of Histology, V.P. Eroschenko, Wolters-Kluwer
14. The Cell – A Molecular Approach, G.M. Cooper & R.E.Hausman, ASM Press SINAUER.
15. Cell Biology, G.Karp, John Wiley & Sons, Inc.
16. Core Text Book of Neuro-Anatomy, by M.B. Carpenter; the Williams and Wilkins Company.
17. The Human Nervous System, by Charles Nobach, Mc Graw Hill Book Co.
18. The Human Nervous System. By M.L. Barr & J.A. Kierman, Harper & Row.
19. Essential Food and Nutrition, by M. Swaminathan. The Bangalore Printing & Publishing Co.
20. Cell & Molecular Biology, EDP De Robertis & EMF De Robertis; Lea & Febiger
21. Molecular Biology of the Gene, by J.D. Watson, H.H. Nancy & others; BenjaminCummings.
22. Molecular Biology of the Cell, B. Alberts and others, Garland.
23. Textbook of Medical Physiology, Indu Khurana, Elsevier
24. Textbook of Medical Biochemistry, R.Chawla *et.al* , Wolters-Kluwer
25. Biochemistry, J.M.Berg, J.L. Tymoczko & L. Stryer, W.H. Freeman
26. William's Text Book of Endocrinology Larsen *et. al* An Imprint of Elsevier.
27. Endocrinology, Mac E. Hadley, Pearson Education.
28. Vander's Human Physiology, E.P. Widmaier *et al.*, McGraw-Hill, Higher Education.
29. Concise Medical Physiology by S.K. Chaudhuri, New Central Book Agency.
30. Medical Physiology by A.B. Mahapatra, Current Books International.
31. Endocrinology. Vols.I , II and III by L.O. DeGroot. W.B. Saunders Co.
32. Langman's Medical Embryology by J.W. Sadler, Lippincott Williams and Wilkins.
33. Essentials of Human Embryology by A.K. Datta. Current Books International.
34. Human Embryology by I. Singh & G.P.Pal, McMillan.
35. Human Physiology An Integrated Approach by D.U. Silverthorn,Pearson.

## Discipline Specific Electives (DSE)

### Group A

1. Biostatistics
2. Microbiology & Immunology
3. Ergonomics
4. Community and Public Health

### Group B

1. Work, Exercise and Sports Physiology
2. Advanced Molecular Biology & Nanotechnology
3. Chronobiology and Stress Physiology
4. Toxicology and Pharmacology

### Semester V

Group – A 1 & 2 (Anyone)  
Group – B 1 & 2 (Anyone)

### Semester VI

Group – A 3 & 4 (Anyone)  
Group – B 3 & 4 (Anyone)

## Group A

### **1. Biostatistics (DSE A1TH)**

Scope of statistics – utility and misuse. Principles of statistical analysis of biological data.

Basic concepts – variable. Population and Sampling -- parameter, statistic.

Presentation of data-frequency distribution, frequency polygon, histogram, bar diagram and pie diagram.

Different classes of statistics- mean median, mode, mean deviation, variance, standard deviation, standard error of the mean. Standard score.

Degrees of freedom. Probability. Normal distribution. Student's t distribution.

Testing of hypothesis - Null hypothesis, errors of inference, levels of significance, t-test and z score for significance of difference.

Distribution-free test - Chi-square test.

Linear correlation and linear regression.

One way ANOVA

**(4)**

### **DSE A1P**

Computation of mean, median, mode, standard deviation and standard error of the mean with physiological data like body temperature, pulse rate, respiratory rate, height and weight of human subjects. Graphical representation of data in frequency polygon and histogram. Student's t test for significance of difference between means. Determination of correlation coefficient (r) and computation of linear regression equation.

#### Suggested Readings

1. Statistics in Biology and Psychology by D.Das and A.Das Academic Publishers.
2. An Introduction to Biostatistics, N. Gurumani, M.J.P. Publishers, Chennai.
3. Biostatistical Analysis by J.H Zar, Pearson.
4. Statistical Methods in Biology, Norman T.J.Bailey, Cambridge University Press.

## 2. Microbiology & Immunology (DSE A2TH)

**Classification of microorganisms.** Techniques employed for the identification of microorganisms -- microscopic and biochemical methods.

**Control of microbial growth :**Physical and Chemical methods used in sterilization, disinfection and pasteurization.

**Bacteriology :**Bacterial classification based on staining techniques (Gram stain and Acid-fast stain) and morphological aspect. Bacterial structure :cell-wall, LPS layer, pili, flagella, chromosome, plasmid, spores and cysts.

**Culture of bacteria :** Nutritional requirement – complex and synthetic media, preparation of media ; physical factors required for growth (temperature, pH and gaseous requirement) ; bacterial growth curve : different phases and their significance ; quantitative estimation of bacterial growth ; continuous growth culture and its utility.

**Food microbiology :**Beneficial and harmful microorganisms in food, causative organisms of food-borne infections- mode of transmission and methods of prevention.

**Bacterial metabolism:** Fermentation, Glyoxalate cycle and Entner-Doudoroff pathway.

**Bacterial genetics :**Transformation, conjugation and transduction.

**Treatment of bacterial infection :** Chemotherapeutic agents. antibiotics- definition, bactericidal and bacteriostatic and their mechanism of action.

**Virology :**Viral structure – virion, prion and bacteriophages ; classification of viruses based on nucleic acid composition and host system, replication of bacteriophages – lytic and lysogenic cycle.

**Overview of innate and acquired immunity :** Elements of acquired immunity: Characteristics of immune response, cells and organs involved in immune response.

**Immunogens and antigens :** Requirements of immunogenicity, epitopes recognized by B- & T- cells, haptens, adjuvants, cross-reactivity. Antibody structure, classification and functions.

**Kinetics of antibody responses :**Primary & secondary. Antigen - antibody interactions - Primary interaction : association constant, affinity & avidity. Secondary interaction : precipitation & agglutination. B-cell receptor.

**MHC molecules :**structure of class I and II molecules, brief idea of peptide binding by MHC molecules, cellular distribution.

**Antigen processing and presentation:** T-cell receptor. T-cell maturation and differentiation - thymic selection in brief. B-cell activation & differentiation : thymus dependent and independent antibodies, T-B co-operation, the carrier effect.

**Cytokines :**Produced by TH1 & TH2 cells, regulating specific immune response only.

**Complement** :Activation components – classical, alternative and lectin.  
Biological consequence of complement activation. Cell-mediated effector responses : CTLs, NK cells, K cells.

Brief idea of autoimmunity, cancer immunotherapy and AIDS. Hypersensitivity reactions and their types

**Vaccination** :Passive and active immunization, types and uses of vaccine.

**Toxins and toxoids.**

**Hybridoma technology** (4)

### DSE A2P

1. Gram staining of bacteria and identification of Gram positive and Gram negative bacteria.
2. Determination of human blood group using immunological method.
3. Quantitation of antigen or antibody by precipitin test.
4. Isolation and staining of splenocytes.
5. Lactophenol cotton blue staining of yeast cells. (2)

Suggested readings:

1. Microbiology, Pelczar Tata McGrawhill.
2. General Microbiology By Stanier *et.al*, Prentice Hall.
3. Microbiology An Introduction, G.J Tortora, Pearson.
4. Prescott's Microbiology, J. Willey *et.al*, McGraw-Hill
5. Kuby Immunology by T.J Kindt *et.al*, W.H Freeman.
6. Cellular and Molecular Immunology, A.K. Abbas *et.al*, Elsevier.

## 3. Ergonomics (DSE A3TH)

### Introduction to Ergonomics

A brief history of ergonomics

Multidisciplinary approach to Ergonomics

Definition and scope of Ergonomics

Role of ergonomics in health safety and productivity

### Human machine interaction

Introduction to man machine interaction and interfaces

Fundamentals of human computer interaction

Fundamental idea of display and control

### Anthropometric considerations in Ergonomics

Definition of anthropometry

Common terminologies used in anthropometry

Different body dimensions measured in anthropometry

Basic Concepts of reach, clearance, posture, range of motion.

Concept of percentile and its calculation and use of percentile values in anthropometry

### The work place

Workplace components. Work place stressors and work place risk factors

### Environmental Ergonomics

Ergonomic consideration of thermal environment

Ergonomic consideration of visual environment

Ergonomic consideration of environmental noise

## **Workplace and workplace design**

Anthropometric principles in workplace design  
Design principles for sitting and standing work

## **Ergonomic principles of load handling**

Fundamentals of manual material handling  
Different categories of movement in manual load handling  
Ergonomic principles of safe load handling

## **Musculoskeletal Disorders**

Basic idea about the role of skeletal system in movement, categories of joints, role of muscles, soft tissues and bones in movement  
Risk factors for musculoskeletal disorders  
Different types of musculoskeletal disorders  
Evaluation of musculoskeletal disorders by questionnaire technique  
Basic concept of OWAS method of work posture analysis.

## **Ergonomic intervention**

Ergonomic principles of reducing work place stressors and improving work efficiency

## **DSE A3P**

1. Determination of heat stress by WBGT indices
2. Assessment of Illumination
3. Basic anthropometric measurements
4. Determination of range of motion by goniometer and strength by hand grip dynamometer
5. Assessment of prevalence of musculoskeletal disorder by questionnaire method

## **Suggested Readings**

1. Fitting the task to the man: A textbook of Occupational Ergonomics. KHE Kroemer and E Grandjean. Taylor and Francis.
2. Engineering Physiology: Bases of Human factors / Ergonomics, KHE Kroemer and HB Kroemer. Van Reinhold.
3. Bodyspace: Anthropometry, Ergonomics and Design. S.Phesant, Taylor and Francis
4. Human Factors in Engineering. EJ McCormick and H Saunders. 5<sup>th</sup> Edition. McGraw-Hill .
5. Ergonomics Man in His working Environment. Murrell K. 3<sup>rd</sup> Ed. Springer.
6. Introduction to Ergonomics, R.S. Bridger, Routledge : Taylor & Francis group

## **4. Community and Public Health (DSE A 4TH)**

Basic idea about community, public health issues.

Malnutrition in a community, over nutrition and possible remedial measures.

Diet management of obese, diabetic, hypertensive individuals and athletes.

Iron and iodine deficiency.

Population problem – principles and methods of family planning,. Problem of infertility and Assisted Reproductive Technologies. PCM -- Marasmus, Kwashiorkor, Marasmic Kwashiorkor, endemic goiter, nutritional anemias, rickets, osteomalacia, xerophthalmia, beriberi and their social implications. Principles and social importance of

immunization against diseases. Etiology, epidemiology and prevention -- Communicable diseases : Cholera, Malaria, Swine flu, Japanese Encephalitis, Rabies, Dengue, Hepatitis and AIDS; Non-communicable diseases – Hypertension and Obesity.

## **DSE A4P**

1. Calculation of Body Surface Area (using nomogram), Body Mass Index and Ponderal Index from anthropometric measurements.
2. A report (hand-written) on the basis of field survey from ONE of the followings:
  - a) Physiological parameters of human (at least three parameters).
  - b) Anthropometric measurements on human (at least three parameters).
  - c) Epidemiological studies on human.

### **Suggested Readings**

1. Park's Textbook of Preventive and Social Medicine, K.Park, M/s. Banarasidas Bhanot, 2015.
2. Communicable Disease Control Handbook, Jeremy Hawker *et.al*, Blackwell Publishing

## **Group B**

### **1. Work, Exercise and Sports Physiology (DSE B1TH)**

#### **□ Introduction to work physiology**

Definitions in work and exercise Physiology,

Fundamental concepts of work; work characteristics, work cycle and work pauses

Different categories of work

Different approaches to describe work and work load.

#### **Physiological basis of work**

Physiology of muscle action

Physical work load; Static and dynamic work

Physiological responses to static and dynamic work

Relationship between oxygen consumption and heart rate

Effect of heat stress on physiological responses to work load

#### **Work load assessment**

Physiological assessment of work load, work load classification, cardiovascular and respiratory indices for evaluating work load. acceptable work load.

#### **Work Organization**

Fundamental concept of work organization

Principles of reducing stress from physical work load

## **Exercise and Physical fitness**

Exercise, physical activity and physical fitness. Benefits of exercise Components of fitness and their evaluation

## **Physical Working Capacity**

Concept of maximal physical working capacity VO<sub>2</sub> max, and its estimation by different methods. Factors affecting VO<sub>2</sub>max. Step test, bicycle ergometry and treadmill exercise for assessment of Physical working capacity.

## **Bioenergetics**

Work power and energy, sources of energy. Aerobic and anaerobic capacity, EPOC, lactate threshold and lactate tolerance and their limitations. Determination of energy cost by direct and indirect methods

Athletic performance based on aerobic capacity and O<sub>2</sub> debt

## **Training Principles**

Training principles, different training methods. Training principles for different sports activities. Over training and detraining and their physiological effects. Ergogenic aids.

## **Body composition**

Determination of Physical growth status. Methodologies for body composition analysis. (2)

## **DSE B1P**

1. Determination of BMI, BSA, PI, waist hip ratio, body fat percentage and body type
2. Determination of V<sub>O<sub>2</sub></sub>max by Queen's College Test and physical fitness by modified Harvard step test
3. Determination of agility, flexibility and anaerobic power by shuttle run, sit and reach and vertical jump test
4. Recording of heart rate and blood pressure during static and dynamic work, determination of workload from heart rate and cardiac indices and classification of work load. (2)

### **Suggested Readings**

1. Exercise Physiology: Theory and Application to Fitness and Performance. S.K. Powers and E.T. Howley. 10th edition. McGraw Hill publishers.
2. Exercise Physiology: Nutrition, Energy, and Human Performance. W.D. McArdle, F.I. Katch and V.L. Katch. 7th edition. Lippincott, Williams & Wilkins publishers.
3. Physiology of Sport and Exercise. J. H. Wilmore, D. L. Costill, W. Larry Kenney. Human Kinetics
4. Textbook of Work Physiology: Physiological Bases of Exercise. Per-Olof Åstrand, Kaare Rodahl, Hans A. Dahl, Sigmund B. Strømme. Human Kinetics
5. Fox's Physiological Basis for Exercise and Sport by M. L. Foss. S. J. Keteyian, E. L. Fox, William C. Brown Pub
6. The Physiology of Work, K. Rodahl, Taylor & Francis,
7. Essentials of Exercise Physiology, V.L. Katch, W.D. McArdle, F.I. Katch, Wolters Kluwer



## 2. Advanced Molecular Biology (DSE B2TH)

Repetitive DNA, interrupted genes, gene families, transposons.  
Control of gene expression – attenuation and antitermination, Operon - trp, arabinose, DNA methylation, (DCM, DAM). Post-transcriptional modifications, cap, poly A tail splicing, RNA editing. Role of chromatin in gene expression and gene silencing.

Cell-cell communication and quorum sensing in bacteria.

Molecular basis of apoptosis in brief.

Protein sequencing methods, detection of post translation modification of proteins. DNA sequencing methods. Molecular markers in genome analysis. Methods for analysis of gene expression at RNA and protein level, large scale expression, such as Micro array based techniques . RFLP, RAPD and AFLP techniques. Gene Knockout. Point mutations and deletions. Methods for detection of molecules in living cells, in situ localization by techniques such as FISH and GISH. Genomic medicine. Genetic counselling. Outline of ChIP technique. .

. Fundamentals of nanoscience :The nanoscale dimension and paradigm. Definition of a Nano system, Example- bone minerals and silk. Engineered Nanostructures—Carbon nanotubes, Gold & Silver nanoparticles. Bionanomaterials – Self-assembly in bionanostructures, e.g., virus self-assembly. Nanomotors- Ribosomes and mammalian myosin. Applications of Nanomaterials in Biology-- Biochemical sensor, Labelling and cellular imaging, Cancer treatment and Regenerative Medicine. (4)

### DSE B2P

1. SDS-PAGE of proteins.
2. Isolation of DNA from animal cells.
3. Estimation of RNA by Orcinol method .

(2)

#### Suggested Readings

1. Harper's Illustrated Biochemistry 30<sup>th</sup> edition. Lange.
2. Biotechnology: Lessons from Nature. D.S. Goodsell, Wiley India , 2012.
3. Nanobiotechnology: Concepts, Applications and Perspectives, Niemeyer and Mirkin, Wiley India , 2013.
4. Molecular Cell Biology, Berk, Kaiser, Lodish *et.al*, WH Freeman.

## 3. Chronobiology and Stress Physiology (DSE B3TH)

Different types of physiological rhythms – ultradian, circadian, infradian.

Different zeitgebers and their relation with circadian clock.

Hormonal biorhythms and their significance: adrenocortical, pineal and prolactin.

Neural basis of biological clock and role of suprachiasmatic nuclei.

Sleep-wakefulness cycle.

Body temperature rhythm.

Time keeping genes.

Jet-lag and shift work.

Stress : Physical and Emotional Stressors. General Adaptation Syndrome.

Role of Hypothalamic-Pituitary-Adrenal Axis and Sympathoadrenal Medullary Axes in coping stress.

Effects of chronic stress: Immunological, Cardiovascular Disease, Emotional.

Heat disorders and its preventive measures. Effects of hypobaric and hyperbaric environment. Caisson disease. Preventive measures for hypobaric and hyperbaric effects.

Oxidative stress-Formation of Reactive Oxygen Species and the role of Catalase, Superoxide Dismutase, Glutathione. Peroxidase and Glutathione Reductase in combating oxidative stress – role of vitamins. (4)

### **DSE3P**

1. Project work on assessment of individual differences in human circadian rhythms (chronotype in human population) by questionnaire method among school children and college students.
2. Assessment of environmental heat load.
3. Assessment of noise level using noise level meter.
4. Determination of diurnal and /or circalunar rhythm of body temperature of college going students. (2)

#### **Suggested Readings**

1. Chronobiology – The Biological Timekeeping, J.C. Dunlap, Sinauer Associates
2. The Rhythm of Life, M. Kelly, The New York Times Bestseller
3. Biological Rhythms, Vinod Kumar, Narosa Publishers
4. Behavioural Endocrinology, R.J. Nelson, Sinauer Associates
5. Physiology of Stress, Hans Selye, Jones and Bartlett Publishers

## **4.Toxicology and Pharmacology (DSE B4TH)**

Toxins and Toxicology Factors Affecting toxicity.

LD<sub>50</sub>, LOD<sub>50</sub>, ED<sub>50</sub>, NOEL, LOEL

Concepts of Biomagnification and Bioconcentration

The importance of pharmacology in the study of physiological processes.

Definition of drug, agonist and antagonist. Drug delivery Drug reactivity.

Pharmacokinetics : Drug-receptor interaction, Desensitization of receptors, Absorption, Distribution, Permeation, Elimination, Clearance, Half-life.

Pharmacodynamics: dose-response curves. Beneficial versus toxic effects of drugs. Drug biotransformation. Bioavailability. Drug accumulation. Therapeutic index. Anaesthetics : types and mechanism of action of general anaesthetics. Sedatives - hypnotics: benzodiazepine, zolpidem. Diuretics - Carbonic anhydrase inhibitor, loop diuretic, potassium sparing and osmotic diuretics. Neuromuscular blockers : Tubocurarine and succinyl choline. Organ system effects and mechanism of action of adrenoceptor agonists and antagonists:  
*Adrenergic stimulants* : Amphetamine and ephedrine.  $\alpha$ - adrenergic stimulants – Methoxamine and clonidine.  $\beta$ - adrenergic stimulants – Metaproterenol and salbutamol.

*Adrenergic antagonists* : Labetalol.  $\alpha$ - adrenergic blockers – Phenoxybenzamine and phentolamine.  $\beta$ - adrenergic blockers – Propranolol and atenolol.

Antianginal drugs: Nitroglycerine and calcium-channel blocker – Nifedipine and verapamil. (4)

### **DSE B4P**

Kymographic recording of the effects of atropine and propranolol on the perfused heart of toad. (2)

#### **Suggested Readings**

1. Goodman and Gilman's The Pharmacological basis of Therapeutics, McGraw-Hill.
2. Basic and Clinical Pharmacology by E.G Katzung .Appleton and Lange.
3. Textbook of Pharmacology by Seth and Seth Elsevier.

## **Skill Enhancement Course (SEC)**

### **SEC-A (One course in Semester 3)**

1. Hematological Techniques
2. Clinical Biochemistry

### **SEC-B (One course in Semester 4)**

1. Detection of Food Additives /Adulterants and Xenobiotics
2. Bioinformatics

## **SEC-A**

### **1. Haematological techniques**

Blood groups - ABO and Rh. Immunological basis of identification of ABO and Rh blood groups. Biochemical basis of ABO system and Bombay phenotype. Blood transfusion - precaution and hazards. Concept of Blood Bank. Erythropoietin and thrombopoietin. Abnormal haemoglobins. thalassaemia and sickle-cell anaemia. Glycemic index, Glycated haemoglobin, C peptide C-reactive protein, Ghrelin and Leptin in health and diseases. Definition, determination and significance of TC, DC, ESR, Arneith count, PCV, MCV, MHC, MCHC, bleeding time, clotting time and prothrombin time. Anaemia - types (definition and causes). Leucocytosis, leucopenia and leukaemia. Purpura. (2)

#### **Suggested Readings:**

1. Wintrobe's- Clinical Haematology By J. P. Greer et.al., Wolters Kluwers
2. William's Haematology By E. Deutler et. Al., McGrawhill

### 3. Clinical Biochemistry

Pathophysiological significance of the following blood constituents: glucose, serum protein, albumin, urea, creatinine, uric acid, bilirubin and ketone bodies. Lipid and thyroid profile in health and disease. Pathophysiological significance of the following serum enzymes and proteins: Lactate dehydrogenase, Creatine kinase, Amylase, Acid and Alkaline phosphatases,  $\beta$ -glucuronidase, Alanine and Aspartate Transaminases, Lipase,  $\gamma$ -glutamyl transpeptidase, Regan Isoenzyme, Cardiac Troponins. (2)

Suggested Readings:

1. Harpers Illustrated Biochemistry By V.W.Rodwell et.al., McGrawhill.
2. Text Book of Medical Biochemistry By M.N.Chatterjea and Rana Shinde, Jaypee.
3. Biochemistry, D. Das, Academic Publishers.

## SEC-B

### 1.Detection of Food Additives /Adulterants and Xenobiotics

Definition ,examples and health hazards of food additives/adulterants. Tests for identifying Food Adulterants in food samples and their pathophysiological effects: Metanil yellow, Rhodamin B, Saccharin, Monosodium glutamate, Aluminium foil, Chicory, Bisphenol A and Bisphenol S, Margarine, Lead, Arsenic, Mercury, Polychlorinated Biphenyls, Dioxin and Urea.

Concept of Xenobiotics- Types, sources and fate. Types of reactions in detoxification and their mechanisms- oxidation, reduction, hydrolysis and conjugation. (2)

Suggested Readings:

1. Harper's Illustrated Biochemistry By V.W.Rodwell et.al., McGrawhill
2. Text Book of Medical Biochemistry By M.N.Chatterjea and Rana Shinde., Jaypee

### 2.Bioinformatics

Introduction to Bioinformatics, Bioinformatic databases- PubMed, PDB, Gen Bank, NCBI. Bioinformatic tools- FASTA, BLAST. Applications of bioinformatics- Analysis and interpretation of sequence data, homology searches, sequence alignments and pattern searching, analysis and interpretation of genome data- gene prediction, full gene comparison. Introduction to computational biology- prediction of 3-D protein structure, identification of unknown protein, drug design and application in medical sciences.(2)

Suggested Readings:

1. Bioinformatics -Principles and Applications By Z. Ghosh and B. Mallick., Springer.
2. Bioinformatics-Databases, Tools and Algorithms By O. Bosu and S. K. Thukral., Oxford Higher Education.

3. Introduction to Bioinformatics By Attwood et. Al., Pearson.
4. Harpers Illustrated Biochemistry By V.W.Rodwell et.al., McGrawhill.

# **University of Calcutta**

## **PHYSIOLOGY (GENERAL) SYLLABUS FOR CBCS**

### **CORE COURSES(CC) / GENERIC ELECTIVE (GEN)**

#### **Semester 1**

**CC-1 / GEN 1**

**Cellular Basis of Physiology and Genetics**

**Biophysical Principles, Enzymes and Chemistry of Bio-molecules**

**Digestion, Absorption & Metabolism**

#### **Semester 2**

**CC-2 / GEN2**

**Blood and Body Fluids**

**Cardiovascular System**

**Respiratory System**

#### **Semester 3**

**CC-3 / GEN 3**

**Nerve-muscle Physiology**

**Nervous System**

**Special Senses**

#### **Semester 4**

**CC-4 / GEN 4**

**Endocrinology**

**Reproductive Function**

**Excretory Physiology**

## **Discipline Specific Electives (DSE)**

### **DSE -- A (ONE course in Semester 5)**

1. Biostatistics
2. Haematology

### **DSE - B (ONE course in Semester 6)**

1. Work, Exercise and Sports Physiology
2. Human Nutrition and Dietetics

## **Ability Enhancement Compulsory Courses(AECC)**

**AECC- 1:** Communicative English or any other Modern Indian Language in Semester 1

**AECC-2:** Environmental Studies in Semester 2

## **Skill Enhancement Course (SEC)**

### **SEC -- A (ONE course in Semester 3)**

- 1 Microbiology & Immunology
2. Clinical Biochemistry

### **SEC -- B (ONE course in Semester 4)**

1. Detection of Food Additives /Adulterants and Xenobiotics
2. Community health and formulation of diet charts.

## Outline of Courses and Credits in Each Semester

### Semester I

#### Core Courses (CC).Theoretical (TH)

##### CC1TH / GEN 1 TH

###### Cellular Basis of Physiology

Structure and functions of plasma membrane, nucleus and different cell organelles – Endoplasmic reticulum, Golgi bodies, Mitochondria, Lysosome and Peroxisome.

###### Biophysical Principles, Enzymes and Chemistry of Bio-molecules

Physiological importance of the following physical processes: Diffusion, Osmosis and Surface tension. pH and Buffers – Significance in human body and maintenance of pH in the blood. Colloids - Classification and physiological importance.

Enzymes: Classification, factors affecting enzyme action. Concept of coenzymes and isozymes.

Carbohydrates : Definition and classification.

*Monosaccharides* – Classification, structure, physiological importance.

*Disaccharides* – Maltose, Lactose and Sucrose: Structure, occurrence and physiological importance.

*Polysaccharides* – Starch, Glycogen, Dextrin, Cellulose.

Lipids : Definition and classification. Fatty acids – Classification.

— Definition and importance of, Saponification number and, Iodine number.. Phospholipids, Cholesterol & its ester – physiological importance.

Amino acids, Peptides and Proteins: Classification and structure.

Structure of peptide bonds.

Nucleic acids: Structure of DNA and RNA.

###### Digestion & Metabolism

Structure in relation to functions of alimentary canal and digestive glands.

Composition, functions and regulation of secretion of digestive juices including bile. Digestion and absorption of carbohydrate, protein and lipid. Movements of the stomach and small intestine.



Glycolysis, TCA cycle, Importance of Glycogenesis, Glycogenolysis and Gluconeogenesis. Beta oxidation of saturated fatty acid. Importance of Ketone bodies . Deamination & Transamination. Formation of urea . ( 4)

### **CC1P / GEN 1P:**

Examination and staining of fresh tissues : Squamous, Ciliated and Columnar Epithelium by Methylene Blue stain.

Qualitative tests for identification of : Glucose, Fructose, Lactose, Sucrose, Starch, Dextrin, Lactic acid, Hydrochloric acid , Albumin, Acetone, Glycerol and Bile Salts.

Quantitative estimation of amino nitrogen by Sorensen's formol titration method (percentage to be done) (2)

### **Semester II**

### **CC2TH / GEN 2TH-**

#### **Blood and Body Fluids**

Blood: composition and functions. Plasma proteins: origin and functions. Blood cells-- their morphology and functions. Erythropoiesis. Hemoglobin : different types of compounds and derivatives. Coagulation of blood: mechanism, procoagulants, anticoagulants.. Lymph and tissue fluids: composition, formation, and functions.

#### **Cardiovascular System**

Anatomy and histology of the heart. Properties of cardiac muscle. Origin and propagation of cardiac impulse. Cardiac cycle : Events. Heart sounds. Heart rate. Cardiac output: Determination by following Fick principle, factors affecting. Pulse - arterial and venous. Blood pressure and factors controlling. Baro- and chemoreceptors. Vasomotor reflexes. Peculiarities of regional circulations: coronary and cerebral.

#### **Respiratory System**

Anatomy and histology of the respiratory passage and organs. Role of respiratory muscles in breathing. Lung volumes and capacities. Exchange of respiratory gases between lung and blood and between blood and tissues. Transport of oxygen and carbon dioxide in blood. Regulation of respiration - neural and chemical. Hypoxia. (4)

### **CC2P GEN 2P:**

Preparation and staining of human blood film with Leishman's stain and identification of different types of blood cells.

Preparation of hemin crystals.

Demonstration- kymographic recording of the unperfused heart of toad and effects of warm and cold saline.

Measurement of systolic and diastolic pressure by sphygmomanometer and determination of pulse and mean pressure.  
Measurement of peak expiratory flow rate.  
Pneumographic recording of normal respiratory movements and effects of hyperventilation and breath-holding. (2)

## **Semester III**

### **CC3TH / GEN 3TH**

#### **Nerve-muscle Physiology**

Structure of neurons. Origin and propagation of nerve impulse. Velocity of impulse in different types of nerve fiber. Properties of nerve fibers: all or none law, rheobase and chronaxie, refractory period. indefatigability. Synapses: structure, mechanism of synaptic transmission. Motor unit. Myoneural junction: structure, mechanism of impulse transmission. Degeneration and regeneration in nerve fibers.

Different types of muscle and their structure. Red and white muscle. Muscular contraction: structural, mechanical and chemical changes in skeletal muscle during contraction and relaxation. Isotonic and isometric contractions. Properties of muscle: all or none law, beneficial effect, summation, refractory period, tetanus, fatigue.

#### **Nervous System**

A brief outline of organization and basic functions (sensory, motor and association) of the nervous system, central and peripheral nervous system. Ascending tracts carrying touch, kinaesthetic, temperature and pain sensations. Descending tracts: pyramidal tract and brief outline of the extra-pyramidal tracts. Reflex action - definition, reflex arc, classification, properties. Functions of the spinal cord. Outline of functions of brain stem.

A brief idea of the structure, connections and functions of cerebellum. Different nuclei and functions of thalamus and hypothalamus. Cerebral cortex: histological structure and localization of functions. CSF : composition, formation, circulation and functions. A brief description of the organization of the autonomic (sympathetic and parasympathetic) nervous system. Functions of sympathetic and parasympathetic nervous system. A brief idea of speech, aphasia, conditioning, learning and memory.

#### **Special Senses**

*Olfaction and Gustation:* Structure of sensory organ, neural pathway of olfactory and gustatory sensation. Mechanism of olfactory and gustatory sensation. Olfactory and gustatory adaptation. After-taste.

*Audition:* Structure of ear, auditory pathway, mechanism of hearing.

*Vision:* Structure of the eye. Histology of retina. Visual pathway. Light reflex. Chemical changes in retina on exposure to light. Accommodation - mechanism. Errors of refraction. Light and dark adaptation. Elementary idea of colour vision and colour blindness. (4)

### **CC3P / GEN 3P:**

Silver Nitrate preparation of nodes of Ranvier.

Silver nitrate preparation of corneal cell space.

Examination and staining of skeletal and cardiac muscles by Methylene Blue stain.

Demonstration : Use of kymograph, induction coil and mercury key. Recording of simple muscle curve with sciatic-gastrocnemius muscle preparation of toad.

Determination of visual acuity by Snellen's chart / Landolt's C chart.

Determination of colour blindness by Ishihara chart.

Exploration of conductive and perceptive deafness by tuning fork method. (2)

## **Semester IV**

### **CC4TH / GEN 4TH**

#### **Endocrinology**

Hormones - classification. Elementary idea of mechanism of hormone action.

*Hypothalamus:* Basic concept of neurohormone.

Hypothalamo-hypophyseal tract and portal system.

*Pituitary:* Histological structure, hormones, functions. Hypo and hyper active states of pituitary gland.

*Thyroid:* Histological structure. Functions of thyroid hormones ( $T_4$   $T_3$ ).

Thyrocalcitonin. Hypo and hyper-active states of thyroid.

*Parathyroid:* Histological structure, functions of parathyroid hormone. Tetany.

*Adrenal Cortex:* Histological structure and functions of different hormones.

Hypo and hyper-active states of adrenal cortex.

*Adrenal Medulla:* Histological structure and functions of medullary hormones.

The relation of adrenal medulla with the sympathetic nervous system.

*Pancreas:* Histology of islets of Langerhans. Origin and functions of pancreatic hormones. Diabetes mellitus.

Brief idea of the origin and functions of renin-angiotensin, prostaglandins, erythropoietin and melatonin. Elementary idea of gastrointestinal hormone.

## Reproductive Physiology

Primary and accessory sex organs and secondary sex characters.  
Testis: histology, spermatogenesis, testicular hormones and their functions.  
Ovary: histology, oogenesis, ovarian hormones and their functions.  
Menstrual cycle and its hormonal control.  
Maintenance of pregnancy – role of hormones. Development of mammary gland and lactation - role of hormones.

## Excretory Physiology

Structure and function relationship of kidney. Mechanism of formation of urine. Normal and abnormal constituents of urine. Physiology of micturition. Renal regulation of acid-base balance. Non-excretory functions of kidney.

Structure and functions of skin. Insensible and sensible perspiration Regulation of body temperature — physical and physiological processes involved in it. Physiology of sweat secretion and its regulation. (4)

## CC4P / GEN 4P:

Study and Identification of Stained Sections of Different Mammalian Tissues and Organs: Esophagus, Stomach, Small Intestine, Large Intestine, Liver, Lung, Trachea, Spinal cord, Cerebral cortex, Cerebellum, Thyroid Gland, Adrenal Gland, Pancreas, Spleen, Testes, Ovary, Kidney, Artery and Vein.

Identification of :

Normal constituents of urine : Chloride, Sulphate, Phosphate, Creatinine and Urea;  
Abnormal constituents of urine: Glucose, Protein, Acetone, Bile pigment and Bile Salt. (2)

## Suggested Readings

1. *Human Physiology Vol. 1 & 2*, C. C. Chatterjee, Medical Allied Agency.
2. *Sharirbigyan (Bengali) Vol. 1 & 2*, J. Debnath, Sridhar Prakashani.
3. *Principles of Physiology*, D. Pramanik, Academic Publishers, Kolkata.
4. *Concise Medical Physiology*, S. K. Chaudhuri, New Central Book Agency.
5. *Biochemistry*, D. Das, Academic Publishers.
6. *Paripak, Bipak O Pusti*, D. Das, Paschim Banga Rajya Pustak Parshad.
7. *Snatok Sharirbidya*, A. Bandopadhyay, Calcutta Book House.
8. *diFiore's Atlas of Histology*, V.P. Eroschenko, Wolters-Kluwer
9. *Essentials of Exercise Physiology*, L.G. Shaver, Surjeet Publications.
10. *Text Book of Medical Physiology*, A.C. Guyton, W.B. Saunders Co.
11. *Textbook of Medical Physiology*, D. Venkatesh & H.H. Sudhakar, Wolters Kluwer
12. *Textbook of Medical Physiology*, Indu Khurana, Elsevier

15. *Medical Physiology*, A.B. Singha Mahapatra, Current Books International.
16. *Essentials of Medical Physiology*: K. Sembulingam and P. Sembulingam, Jaypee Brothers Medical Publishers Pvt. Ltd.
19. *Nutritive Value of Indian Foods* by C. Gopalan and other, NIN, Hyderabad.
20. *Practical Physiology*, by M.K. Manna, Sritara Prakashani, Kolkata

## **Discipline Specific Electives**

### **DSE: GROUP-A**

#### **Biological Statistics (DSE A1TH)**

Basic concepts— Variable, population, parameter, sample, statistic. Classification of data – qualitative and quantitative, continuous and discontinuous. Presentation of data—frequency distribution, bar diagram, pie diagram, frequency polygon and histogram. Mean, median, mode, standard deviation and standard error of ungrouped data. Concept of probability, Null and Alternate Hypotheses, Characteristics and uses of Normal and t-distributions. (4)

#### **DSE A1P**

Computation of mean, median, mode, standard deviation and standard error of the mean using physiological data like body temperature, pulse rate, respiratory rate, height and weight of human subjects. Graphical representation of data in bar diagram, pie diagram frequency polygon and histogram. (2)

##### **Suggested Readings**

1. *Statistics in Biology and Psychology* by D.Das and A.Das Academic Publishers.
2. *Essentials of Biostatistics*, I.Saha and B.Paul, Academic Publishers.

#### **Haematology (DSE A2TH):**

Blood groups - ABO and Rh. Immunological basis of identification of ABO and Rh blood groups. Biochemical basis of ABO system and Bombay phenotype. Blood transfusion - precaution and hazards. Concept of blood bank. Erythropoietin and thrombopoietin. Foetal haemoglobin. Abnormal haemoglobins - thalassaemia and sickle-cell anaemia. Definition, determination and significance of TC, DC, ESR, Arneth count, PCV, MCV, MHC, MCHC, bleeding time, clotting time and prothrombin time. Anaemia - types (definition and causes). Leucocytosis, Leucopenia and Leukaemia. Purpura. Disorders of coagulation. (4)

**DSE A2P:**

DC of WBC, Estimation of haemoglobin , Blood group determination, Bleeding time and Clotting time. (2)

**Suggested Readings**

1. Medical Physiology A.B.S. Mahapatra, Current Books International.
2. Text Book of Medical Biochemistry By M.N.Chatterjea and Rana Shinde., Jaypee

**DSE: GROUP - B****Work & Exercise Physiology and Ergonomics (DSE B1TH)**

Concept of physical work and physiological work. Classification of work loads. Energetics of muscular work. Measurement of energy cost. Cardiovascular and respiratory responses to graded exercise. Maximal oxygen consumption and post-exercise oxygen consumption – definition, factors affecting, measurement and significance. Muscle fatigue and recovery. Physical fitness and its assessment by modified Harvard Step Test. Ergonomics. Importance of ergonomics in occupational health and well being. Definition of anthropometry. Different body dimensions measured in anthropometry and their significance. (4)

**DSE B1P**

Measurement of resting and working heart rate using thirty beats and ten beats methods respectively.

Measurement of blood pressure before and after exercise.

Determination of Physical Fitness Index by modified Harvard Step Test.

Measurement of some common anthropometric parameters- stature, weight, eye height (standing), shoulder height, sitting height, knee height (sitting), arm reach from wall, mid-arm circumference, waist circumference, hip circumference, neck circumference, head circumference, chest circumference.

Calculation of BSA and BMI from anthropometric data. (2)

**Suggested Readings**

1. Essentials of Exercise Physiology, V.L. Katch, W.D. McArdle, F.I. Katch, Wolters Kluwer
2. Exercise Physiology and Ergonomics An Introduction, A.Goswami, Academic Publishers.

**Human nutrition and dietetics (DSE B2TH):**

Basic constituents of food and their nutritional significance. Vitamins-Classification, functions, deficiency symptoms and daily requirements. Hypervitaminosis. Mineral metabolism – Ca, P, Fe. BMR: definition, factors affecting. Respiratory quotient: definition, factors affecting and significance. Biological value of proteins. Essential and non-essential amino acids. Nitrogen balance. SDA : definition and importance. Body calorie requirements – adult consumption unit. Dietary requirements of carbohydrate, protein, lipid and other nutrients. Dietary fibres. Principles of diet survey. Composition and nutritional value of common food stuffs. (4)

### **DSE B2P:**

Diet survey report (hand-written) of a family (as per ICMR specification): Each student has to submit a report on his/her own family. (2)

#### **Suggested Readings**

1. Essential Food and Nutrition, by M. Swaminathan. The Bangalore Printing & Publishing Co.
2. Biochemistry, U. Satyanarayan, NCBA

## **Ability Enhancement Compulsory Courses (AECC)**

**English / MIL Communication (AECC 1TH):**  
**Environmental Science (AECC 2TH)**

## **Skill Enhancement Course (SEC)**

### **SEC A**

### **Microbiology & Immunology (SECA1)**

Viruses - DNA virus and RNA virus. Viroids and Prions. Bacteriophages. Bacteria-structure and morphological classification. Gram positive and Gram negative and acid-fast bacteria. Pathogenic and non-pathogenic bacteria - definition with a few examples. Physical and chemical methods used in disinfection, sterilization and pasteurization. Nutritional requirement – complex and synthetic media, preparation of media ; physical factors required for growth (temperature, pH and gaseous requirement). Bacterial growth curve. Elementary idea of bacteriostatic and bacteriocidal agents.

Beneficial and harmful microorganisms in food.  
Elementary knowledge of innate and acquired immunity. Humoral and cell mediated immunity. Toxins and toxoids. Vaccination – Passive and active immunisation, types and uses of vaccine.  
Immunological basis of allergy and inflammation. (2)

Suggested readings:

1. Microbiology, Pelczar Tata McGrawhill.
2. Prescott's Microbiology, J. Willey *et.al.*, McGraw-Hill

## **Clinical Biochemistry (SEC A2)**

Pathophysiological significance of the following blood constituents: glucose, serum protein, albumin, urea, creatinine, uric acid, bilirubin and ketone bodies. Lipid profile in health and diseases. Pathophysiological significance of the following serum enzymes and isozymes: Lactate dehydrogenase, Creatine kinase, Amylase, Acid and Alkaline phosphatases,  $\beta$ -glucuronidase SGPT and SGOT. (2)

## **SEC B**

### **Detection of Food Additives / Adulterants & Xenobiotics (SEC B1):**

Definition of food adulterants/ additive. Tests for identifying food adulterants-- Metanil yellow, Rhodamin B, Saccharin, Monosodium glutamate, Aluminium foil , Dioxin, Chicory and Bisphenol.

Concept of Xenobiotics- Types, sources and fate. Types of reactions in detoxification and their mechanisms- oxidation, reduction, hydrolysis and conjugation. (2)

Suggested Readings:

1. Harpers Illustrated Biochemistry By V.W.Rodwell *et.al.*, McGrawhill
2. Text Book of Medical Biochemistry By M.N.Chatterjea and Rana Shinde., Jaypee

## **Community and Public Health (SEC B2)**

Basic idea about community, public health issues.  
Malnutrition in a community, over nutrition and possible remedial measures.  
Diet management of obese, diabetic.



Basic idea of PCM and their prevention.

PCM -- Marasmus, kwashiorkor. Endemic goiter, rickets, osteomalacia, xerophthalmia, beriberi and their social implications. Etiology, epidemiology and prevention of:

Communicable diseases : Malaria, Dengue, Hepatitis and AIDS; Non-communicable diseases – Hypertension and Obesity.

Population problem – principles and methods of family planning, and Assisted Reproductive Technologies.

Principles of formulation of diet chart of growing children, pregnant & lactating women and diabetic patients. (2)

#### Suggested Reading

1. Park's Textbook of Preventive and Social Medicine, K.Park, M/s. Banarasidas Bhanot, 2015.



# UNIVERSITY OF CALCUTTA

## Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

### List of the subjects

<u>Sl. No.</u>	<u>Subject</u>	<u>Sl. No.</u>	<u>Subject</u>
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies ( General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE  
KOLKATA-700073  
The 4<sup>th</sup> June, 2018

*Paul*  
4/6/18  
(Dr. Santanu Paul)  
Deputy Registrar

**UNIVERSITY OF CALCUTTA**

**CBCS SYLLABUS OF ZOOLOGY  
2018**

**F  
O  
R**

**THREE-YEAR HONOURS  
DEGREE COURSE OF STUDIES**



## Outline Structure of CBCS Curriculum for Zoology (Hons), C.U.

<b>PART I; SEM I</b>				
Subject Code	Name of Paper	Theory	Practical	Internal assessment
CC 1	Non Chordata – I (Protists to Pseudocoelomates)	50	30	20
CC 2	Molecular Biology	50	30	20
<b>PART I; SEM II</b>				
CC 3	Non Chordata – II (All Coelomate Phyla)	50	30	20
CC 4	Cell Biology	50	30	20
<b>PART II; SEM III</b>				
CC 5	Chordata	50	30	20
CC 6	Animal Physiology: Controlling & Co-ordinating System	50	30	20
CC 7	Fundamentals of Biochemistry	50	30	20
SEC-A (1/2)	Apiculture / Sericulture	80	NA	20
<b>PART II; SEM IV</b>				
CC 8	Comparative Anatomy of Vertebrate	50	30	20
CC 9	Animal Physiology: Life sustaining system	50	30	20
CC 10	Immunology	50	30	20
SEC- B(1/2)	Aquarium Fisheries/ Medical Diagnosis	80	NA	20
<b>PART III; SEM V</b>				
CC 11	Ecology	50	30	20
CC 12	Principle of Genetics	50	30	20
DSE A(1/2)	Parasitology/Biology of Insect	50	30	20
DSE B (1/2)	Endocrinology/Reproductive Biology	50	30	20
<b>PART III; SEM VI</b>				
CC 13	Developmental Biology	50	30	20
CC 14	Evolutionary Biology	50	30	20
DSE A (1/2)	Animal Biotechnology/Animal Cell Biotechnology	50	30	20
DSE B (1/2)	Animal Behaviour & Chronology/Fish & Fisheries	50	30	20

### Abbreviations:

CC: Core Course; DSE A/B: Discipline Specific Elective A/B; SEC A/B: Skill Enhancement Course.

## SUBJECT/PAPER CODE FORMAT

1. Subject Code: ZOO
2. Honours Code: A
3. Course Code: a) Core Course: CC  
b) Discipline Specific Elective: DSE-A/DSE-B  
c) Skill Enhancement Course: SEC-A/SEC-B
4. Semester Code: 1/2/3/4/5/6
5. Paper No. Code: 1/2/3...../14
6. Paper Component Code: a) Theory: TH, b) Practical: P

---

### INDEX

#### CBCS ZOOLOGY (HONOURS), Papers & Their Codes

Code	Paper	Page
<b>Core Course</b>		
ZOOA-CC1-1-TH	Non- Chordates I (Protista to Pseudocoelomate) Theory	5
ZOOA-CC1-1-P	Non- Chordates I Lab	6
ZOOA-CC1-2-TH	Molecular Biology	6
ZOOA-CC1-2-P	Molecular Biology Lab	7
ZOOA-CC2-3-TH	Non-Chordate II (Coelomate Phyla) Theory	7
ZOOA-CC2-3-P	Non-Chordate II Lab	8
ZOOA-CC2-4-TH	Cell Biology Theory	8
ZOOA-CC2-4-P	Cell Biology Lab	9
ZOOA-CC3-5-TH	Chordata Theory	9
ZOOA-CC3-5-P	Chordata Lab	10
ZOOA-CC3-6-TH	Animal Physiology: Controlling & Co-ordinating system Theory	11
ZOOA-CC3-6-P	Animal Physiology: Controlling & Co-ordinating system Lab	11
ZOOA-CC3-7-TH	Fundamental of Biochemistry Theory	12
ZOOA-CC3-7-P	Fundamental of Biochemistry Lab	13
ZOOA-CC4-8-TH	Comparative Anatomy of Vertebrate Theory	13
ZOOA-CC4-8-P	Comparative Anatomy of Vertebrate Lab	14
ZOOA-CC4-9-TH	Animal Physiology: Life Sustaining System Theory	14
ZOOA-CC4-9-P	Animal Physiology: Life Sustaining System Lab	15
ZOOA-CC4-10-TH	Immunology Theory	15
ZOOA-CC4-10-P	Immunology Lab	16
ZOOA-CC5-11-TH	Ecology Theory	16
ZOOA-CC5-11-P	Ecology Lab	17

ZOOA-CC5-12-TH	Principle of Genetics Theory	17
ZOOA-CC5-12-P	Principle of Genetics Lab	18
ZOOA-CC6-13-TH	Developmental Biology Theory	18
ZOOA-CC6-13-P	Developmental Biology Lab	19
ZOOA-CC6-14-TH	Evolutionary Biology Theory	19
ZOOA-CC6-14-P	Evolutionary Biology Practical	20
<b>Discipline Specific Electives</b>		
ZOOA-DSE(A)-5-1-TH	Parasitology Theory	21
ZOOA-DSE(A)-5-1-P	Parasitology Lab	21
ZOOA-DSE(A)-5-2-TH	Biology of Insect Theory	22
ZOOA-DSE(A)-5-2-P	Biology of Insect Lab	23
ZOOA-DSE(B)-5-1-TH	Endocrinology Theory	23
ZOOA-DSE(B)-5-1-P	Endocrinology Lab	24
ZOOA-DSE(B)-5-2-TH	Reproductive Biology Theory	24
ZOOA-DSE(B)-5-2-P	Reproductive Biology Lab	25
ZOOA-DSE(A)-6-1-TH	Animal Cell Biotechnology Theory	25
ZOOA-DSE(A)-6-1-P	Animal Cell Biotechnology Lab	26
ZOOA-DSE(A)-6-2-TH	Animal Biotechnology Theory	26
ZOOA-DSE(A)-6-2-P	Animal Biotechnology Lab	27
ZOOA-DSE(B)-6-1-TH	Animal Behaviour & Chronobiology Theory	27
ZOOA-DSE(B)-6-1-P	Animal Behaviour & Chronobiology Lab	28
ZOOA-DSE(B)-6-2-TH	Fish & Fishery Theory	28
ZOOA-DSE(B)-6-2-P	Fish & Fishery Lab	29
<b>Skill Enhancement Course</b>		
ZOOA-SEC(A)-3-1-TH	Apiculture	29
ZOOA-SEC(A)-3-2-TH	Sericulture	30
ZOOA-SEC(A)-4-1-TH	Aquarium Fishery	31
ZOOA-SEC(A)-4-2-TH	Medical Diagnosis	31

**PART I: SEMESTER 1**  
**CORE COURSE 1. Non-Chordates I**  
**ZOOA-CC1-1-TH**

Full Marks 50	4 Credits	50 Hours
<b>Non-Chordates I: Protists to Pseudocoelomates</b>		
<b>Unit 1: Basics of Animal Classification</b>		4
Definitions: Classification, Systematics and Taxonomy; Taxonomic Hierarchy, Taxonomic types Codes of Zoological Nomenclature; Principle of priority; Synonymy and Homonymy; Concept of classification – three kingdom concept of Carl Woese, 1977 and five kingdom concept of Whittaker, 1969		
<b>Unit 2: Protista and Metazoa</b>		15
<b>Protozoa</b> General characteristics and Classification up to phylum (according to Levine <i>et. al.</i> , 1980) Locomotion in <i>Euglena</i> , <i>Paramecium</i> and <i>Amoeba</i> ; Conjugation in <i>Paramecium</i> . Life cycle and pathogenicity of <i>Plasmodium vivax</i> and <i>Entamoeba histolytica</i>		
<b>Metazoa</b> Evolution of symmetry and segmentation of Metazoa		
<b>Unit 3: Porifera</b>		6
General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Canal system and spicules in sponges		
<b>Unit 4: Cnidaria</b>		10
General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.), Metagenesis in <i>Obelia</i> ; Polymorphism in Cnidaria; Corals and coral reef diversity, Role of symbiotic algae in reef formation. Conservation of coral and coral reefs.		
<b>Unit 5: Ctenophora</b>		2
General characteristics		
<b>Unit 6: Platyhelminthes</b>		6
General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.) Life cycle and pathogenicity and control measures of <i>Fasciola hepatica</i> and <i>Taenia solium</i>		
<b>Unit 7: Nematoda</b>		7
General characteristics and Classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.) Life cycle, and pathogenicity and control measures of <i>Ascaris lumbricoides</i> and <i>Wuchereria bancrofti</i> Parasitic adaptations in helminthes		

## Non-Chordates I Lab; ZOOA-CC-1-1-P

### Non-Chordates I: Protists to Pseudocoelomates

<b>Full Marks 30</b>	<b>60 Hours</b>	2 credits
<b>List of Practical</b>		
Study of whole mount of <i>Euglena</i> , <i>Amoeba</i> and <i>Paramecium</i>		
Identification with reason & Systematic position of <i>Amoeba</i> , <i>Euglena</i> , <i>Entamoeba</i> , <i>Paramecium</i> , <i>Plasmodium</i> , <i>Balantidium</i> , <i>Vorticella</i> (from the prepared slides)		
Identification with reason & Systematic position of <i>Sycon</i> , <i>Potterion</i> (Neptune's Cup), <i>Obelia</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Gorgonia</i> , <i>Metridium</i> , <i>Pennatulula</i> , <i>Madrepore</i> , <i>Fasciola hepatica</i> , <i>Taenia solium</i> and <i>Ascaris lumbricoides</i> .		
Staining/mounting of any protozoa/helminth from gut of <i>Periplaneta</i> sp.		

## CORE COURSE 2: Molecular Biology

### ZOOA-CC1-2-TH

<b>Full Marks 50</b>	4 Credits	50 Hours
<b>Unit 1: Nucleic Acids</b>		3
Salient features of DNA, Chargaff's Rule, Hypo and Hyperchromic shift. Watson and Crick Model of DNA. RNA types & Function.		
<b>Unit 2: DNA Replication</b>		9
Mechanism of DNA Replication in Prokaryotes, Prove that replication is Semi-conservative, bidirectional and discontinuous, RNA priming, Replication of telomeres.		
<b>Unit 3: Transcription</b>		9
Mechanism of Transcription in prokaryotes and eukaryotes, Transcription factors, Difference between prokaryotic and eukaryotic transcription.		
<b>Unit 4: Translation</b>		9
Genetic code, Degeneracy of the genetic code and Wobble Hypothesis. Mechanism of protein synthesis in prokaryotes.		
<b>Unit 5: Post Transcriptional Modifications and Processing of Eukaryotic RNA</b>		8
Capping and Poly A tail formation in mRNA; Split genes: concept of introns and exons, splicing mechanism, alternative splicing and RNA editing		



<b>Unit 6: Gene Regulation</b>	7
Regulation of Transcription in prokaryotes: <i>lac</i> operon and <i>trp</i> operon; Regulation of Transcription in eukaryotes: Activators, enhancers, silencer, repressors, miRNA mediated gene silencing. Epigenetic Regulation: DNA Methylation, Histone Methylation & Acetylation.	
<b>Unit 7: DNA Repair Mechanisms</b>	2
Types of DNA repair mechanisms, RecBCD model in prokaryotes, nucleotide and base excision repair, SOS repair	
<b>Unit 8: Molecular Techniques</b>	3
PCR, Western and Southern blot, Northern Blot	

### Molecular Biology Lab; ZOOA-CC-1-2-P

<b>Full Marks 30</b>	<b>60 Hours</b>	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Demonstration of polytene and lampbrush chromosome from photograph</li> <li>2. Isolation and quantification of genomic DNA from goat liver.</li> <li>3. Agarose gel electrophoresis for DNA.</li> <li>4. Histological staining of DNA and RNA in prepared slides</li> </ol>		

## PART I: SEMESTER 2

### CORE COURSE 3: Non-Chordates II – Coelomates

#### ZOOA-CC2-3-TH

<b>Full Marks 50</b>	4 Credits	50 Hours
<b>Unit 1: Introduction</b>	2	
Evolution of coelom		
<b>Unit 2: Annelida</b>	10	
General characteristics and Classification up to classes (Ruppert and Barnes, 1994) Excretion in Annelida through nephridia; Metamerism in Annelida.		
<b>Unit 3: Arthropoda</b>	16	
General characteristics and Classification up to classes (Ruppert and Barnes, 1994); Insect Eye (Cockroach only). Respiration in Prawn and Cockroach; Metamorphosis in Lepidopteran Insects; Social life in Termite		
<b>Unit 4: Onychophora</b>	2	
General characteristics and Evolutionary significance		

<b>Unit 5: Mollusca</b>	10
General characteristics and Classification up to classes (Ruppert and Barnes, 1994); Nervous system in <i>Pila sp.</i> Torsion in Gastropoda. Feeding and respiration in <i>Pila sp.</i>	
<b>Unit 6: Echinodermata</b>	8
General characteristics and Classification up to classes (Ruppert and Barnes, 1994); Water-vascular system in <i>Asterias</i> . Echinoderm larva and affinities with chordates	
<b>Unit 7: Hemichordata</b>	2
General characteristics of phylum Hemichordata. Relationship with non-chordates and chordates	

## Non-Chordates II Lab, ZOOA-CC-2-3-P

<b>Full Marks 30</b>	<b>2 Credits</b>
<b>List of Practical</b>	
<ol style="list-style-type: none"> <li>Study of following specimens: <ol style="list-style-type: none"> <li>Annelids - <i>Aphrodite</i>, <i>Nereis</i>, <i>Chaetopterus</i>, Earthworm, <i>Hirudinaria</i></li> <li>Arthropods - <i>Limulus</i>, <i>Palaemon</i>, <i>Balanus</i>, <i>Eupagurus</i>, <i>Scolopendra</i>, <i>Peripatus</i>, Silkworm – life history stages, Termite – members of a colony and Honey bee – members of the colony</li> <li>Molluscs - <i>Dentalium</i>, <i>Patella</i>, <i>Chiton</i>, <i>Pila</i>, <i>Achatina</i>, <i>Pinctada</i>, <i>Sepia</i>, <i>Octopus</i>, <i>Nautilus</i></li> <li>Echinoderms - <i>Asterias</i>, <i>Ophiura</i>, <i>Clypeaster</i>, <i>Echinus</i>, <i>Cucumaria</i> and <i>Antedon</i></li> </ol> </li> <li>Anatomy study: Nervous system, Reproductive system (Male &amp; female), Mouth parts &amp; Salivary apparatus in <i>Periplaneta sp.</i></li> </ol>	

## PART I: SEMESTER 2

### CORE COURSE 4: Cell Biology

### ZOOA-CC2-4-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Plasma Membrane</b>		7
Ultra-structure and composition of Plasma membrane: Fluid mosaic model, Transport across membrane - Active and Passive transport, Facilitated transport, Cell junctions: Tight junctions, Gap junctions, Desmosomes		
<b>Unit 2: Cytoplasmic organelles I</b>		5
Structure and Functions: Endoplasmic Reticulum, Golgi Apparatus, Lysosomes; Protein sorting and mechanisms of vesicular transport		
<b>Unit 3: Cytoplasmic organelles II</b>		7
Mitochondria: Structure, Semi-autonomous nature, Endosymbiotic hypothesis Mitochondrial Respiratory Chain, Chemiosmotic hypothesis; Peroxisomes: Structure and Functions		

Centrosome (Kinetochore and centromeric DNA): Structure and Functions	
<b>Unit 4: Cytoskeleton</b>	5
Type, structure and functions of cytoskeleton; Accessory proteins of microfilament & microtubule	
<b>Unit 5: Nucleus</b>	8
Nuclear envelope, Nuclear pore complex, Nucleolus; Chromatin: Euchromatin and Heterochromatin and packaging (nucleosome),	
<b>Unit 6: Cell Cycle</b>	10
Cell cycle and its regulation, Cancer (Concept of oncogenes and tumor suppressor genes with special reference to p53, Retinoblastoma and Ras. Process of Proto-oncogene activation	
<b>Unit 7: Cell Signalling</b>	8
Cell signalling transduction pathways; Types of signalling molecules and receptors (Classification and Example only): RTK & JAK/STAT. Apoptosis	

### Cell Biology Lab; ZOOA-CC-2-4-P

<b>Full Marks 30</b>	<b>60 Hours</b>	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Preparation of temporary stained squash of onion/arum root tip to study various stages of mitosis</li> <li>2. Study of various stages of meiosis from grasshopper testis</li> <li>3. Preparation of permanent slide to show the presence of Barr body in human female blood cells/cheek cells.</li> <li>4. Preparation of permanent slide to demonstrate: <ol style="list-style-type: none"> <li>a. DNA by Feulgen reaction</li> <li>b. Cell viability study by Trypan Blue staining</li> </ol> </li> </ol>		

## PART II: SEMESTER 3.

### CORE COURSE 5 : Chordata

#### ZOOA-CC3-5-TH

<b>Full Marks 50</b>	4 Credits	50 Hours
<b>Unit 1: Introduction to Chordates</b>	2	
General characteristics and outline classification of Phylum Chordata (Young, 1981)		
<b>Unit 2: Protochordata</b>	7	
General characteristics and classification of sub-phylum Urochordata and Cephalochordata up to Classes (Young, 1981). Metamorphosis in <i>Ascidia</i> . Chordate Features, structure of pharynx and feeding in <i>Branchiostoma</i>		

<b>Unit 3: Agnatha</b>	2
General characteristics and classification of cyclostomes up to order (Young, 1981)	
<b>Unit 4: Pisces</b>	7
General characteristics and classification up to living sub classes (Young, 1981); Accessory respiratory organ, Migration in fishes; Parental care in fishes; Swim bladder in fishes.	
<b>Unit 5: Amphibia</b>	7
General characteristics and classification up to living Orders (Young, 1981); Metamorphosis, Paedomorphosis, Parental care in Amphibia	
<b>Unit 6: Reptilia</b>	8
General characteristics and classification up to living Orders (Young, 1981); Poison apparatus and Biting mechanism in Snake. Poisonous & Non-Poisonous snake.	
<b>Unit 7: Aves</b>	8
General characteristics and classification up to living Sub-Classes (Young, 1981); Exoskeleton and migration in Birds; Principles and aerodynamics of flight	
<b>Unit 8: Mammals</b>	9
General characters and classification up to living sub classes (Young, 1981); Exoskeleton derivatives of mammals; Adaptive radiation in mammals with reference to locomotory appendages; Echolocation in Micro chiropterans	

### Chordata Lab; ZOOA-CC-3-5-P

<b>Full Marks 30</b>	<b>60 Hours</b>	2 Credits
<b>List of Practical</b>		
<p>Identification with Reasons</p> <ol style="list-style-type: none"> <li><b>Protochordata:</b> <i>Balanoglossus</i>, <i>Branchiostoma</i></li> <li><b>Agnatha:</b> <i>Petromyzon</i></li> <li><b>Fishes:</b> <i>Scoliodon</i>, <i>Sphyrna</i>, <i>Pristis</i>, <i>Torpedo</i>, <i>Mystus</i>, <i>Heteropneustes</i>, <i>Labeo rohita</i>, <i>Exocoetus</i>, <i>Hippocampus</i>, <i>Anabas</i>, Flat fish</li> <li><b>Amphibia:</b> <i>Necturus</i>, <i>Bufo</i> (<i>Duttaphrynus</i>) <i>melanostictus</i>, <i>Rana</i> (<i>Hoplobatrachus</i>) <i>tigerinus</i>, <i>Hyla</i>, <i>Tylotriton</i>, Axolotl larva</li> <li><b>Reptilia:</b> <i>Chelone</i>, <i>Trionyx</i>, <i>Hemidactylus</i>, <i>Varanus</i>, <i>Calotes</i>, <i>Chamaeleon</i>, <i>Draco</i>, <i>Vipera</i>, <i>Naja</i>, <i>Hydrophis</i>,</li> <li><b>Mammalia:</b> Bat (Insectivorous and Frugivorous), <i>Funambulus</i> (Indian Palm squirrel)</li> </ol> <p>Dissection of brain and pituitary – <i>ex situ</i>, digestive and Urino-genital system of <i>Tilapia</i></p> <p>Pecten from Fowl head</p> <p>Power point presentation on study of habit, habitat or behaviour of any one animal by student – for internal assessment only</p>		

## PART II: SEMESTER 3.

### CORE COURSE 6: Animal Physiology: Controlling and Co-ordinating System

#### ZOOA-CC3-6-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Tissues</b>		4
Structure, location, classification and functions of epithelial tissue, connective tissue, muscular tissue and nervous tissue		
<b>Unit 2: Bone and Cartilage</b>		4
Structure and types of bones and cartilages, Ossification		
<b>Unit 3: Nervous System</b>		10
Structure of neuron, resting membrane potential, Origin of action potential and its propagation across the myelinated and non-myelinated nerve fibres; Types of synapse, Synaptic transmission and Neuromuscular junction		
<b>Unit 4: Muscular system</b>		10
Histology of different types of muscle; Ultra-structure of skeletal muscle; Molecular and chemical basis of muscle contraction; Characteristics of muscle fibre		
<b>Unit 5: Reproductive System</b>		6
Histology of mammalian testis and ovary; physiology of mammalian reproduction – menstrual and oestrous cycle		
<b>Unit 6: Endocrine System</b>		16
Histology and function of thyroid, pancreas and adrenal. Function of pituitary Classification of hormones; Mechanism of Hormone action; Signal transduction pathways for Steroidal and Non- steroidal hormones; Hypothalamus (neuroendocrine gland) - principal nuclei involved in neuroendocrine control of anterior pituitary; Placental hormones		

#### Animal Physiology: Controlling & Coordinating Systems, Lab;

#### ZOOA-CC3-6-P

Full Marks 30	60 Hours	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"><li>1. Recording of cardiac and simple muscle twitch with electrical stimulation</li><li>2. Preparation of temporary mounts: Squamous epithelium, Striated muscle fibres and nerve cells</li><li>3. Study of permanent slides of Mammalian Skin, Spinal cord, Pancreas, Testis, Ovary, Adrenal, Lung, pyloric stomach, cardiac stomach, Thyroid, small intestine and large intestine of mammal (white rat)</li><li>4. Microtomy: Preparation of permanent slide of any five mammalian (Goat/white rat) tissues</li></ol>		

**PART II: SEMESTER 3**  
**CORE COURSE 7: Fundamentals of Biochemistry**  
**ZOOA-CC3-7-TH**

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Carbohydrates</b>		8
Structure and Biological importance: Monosaccharides, Disaccharides, Polysaccharides; Derivatives of Monosaccharides; Carbohydrate metabolism: Glycolysis, Citric acid cycle, Pentose phosphate pathway, Gluconeogenesis		
<b>Unit 2: Lipids</b>		7
Structure and Significance: Physiologically important saturated and unsaturated fatty acids, Triacylglycerols, Phospholipids, Sphingolipid, Glycolipids, Steroids, Eicosanoids and terpenoids. Lipid metabolism: $\beta$ -oxidation of fatty acids - a. Palmitic acid {saturated (C 16:0)}, b. Linoleic acid {unsaturated (C 18:2)}; Fatty acid biosynthesis		
<b>Unit 3: Proteins</b>		10
Amino acids: Structure, Classification, General and Electro chemical properties of $\alpha$ -amino acids; Physiological importance of essential and non-essential amino acids, Proteins Bonds stabilizing protein structure; Levels of organization; Protein metabolism: Transamination, Deamination, Urea cycle, Fate of C-skeleton of Glucogenic and Ketogenic amino acids		
<b>Unit 4: Nucleic Acids</b>		10
Structure of Purines, Pyrimidines, Nucleosides and Nucleotides; Nucleic Acid Metabolism: Catabolism of adenosine, Guanosine, cytosine and thymine.		
<b>Unit 5: Enzymes</b>		13
Nomenclature and classification; Cofactors; Specificity of enzyme action; Isozymes; Mechanism of enzyme action; Enzyme kinetics; Derivation of Michaelis-Menten equation, Lineweaver-Burk plot; Factors affecting rate of enzyme-catalyzed reactions; Enzyme inhibition.		
<b>Unit 5: Oxidative Phosphorylation</b>		2
Redox systems; Mitochondrial respiratory chain, Inhibitors and un-couplers of Electron Transport System		

## Fundamentals of Biochemistry Lab; ZOOA-CC-7-3-P

Fundamentals of Biochemistry		
Full Marks 30	60 Hours	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Qualitative tests for carbohydrates, proteins and lipids</li> <li>2. Qualitative estimation of Urea &amp; Uric acid</li> <li>3. Paper chromatography of amino acids.</li> <li>4. Quantitative estimation of water soluble proteins following Lowry Method</li> </ol>		

### PART II: SEMESTER 4

#### CORE COURSE 8.Comparative Anatomy of Vertebrates

#### ZOOA-CC4-8-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Integumentary System</b>		10
Structure, function and derivatives of integument in amphibian, birds and mammals		
<b>Unit 2: Digestive System</b>		6
Comparative anatomy of stomach; dentition in mammals		
<b>Unit 3: Respiratory System</b>		6
Respiratory organs in fish, birds and mammals		
<b>Unit 4: Circulatory System</b>		7
General plan of circulation, Comparative account of heart and aortic arches		
<b>Unit 5: Urinogenital System</b>		5
Succession of kidney in different vertebrate groups; evolution of urino-genital ducts		
<b>Unit 6: Nervous system and sense organs</b>		8
Comparative account of brain in vertebrates; cranial nerves; olfactory and auditory receptors in vertebrates		
<b>Unit 7: Skeletal system</b>		8
Overview of axial and appendicular skeleton – limbs, girdles of pigeon; jaw suspension in mammals		

## Comparative Anatomy of Vertebrates Lab; ZOOA-CC4-8-P

Full Marks 30	60 Hours	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Study of placoid, cycloid and ctenoid scales through permanent slides/photographs</li> <li>2. Study of disarticulated skeleton of toad, Pigeon, Guineapig (limb bones, vertebrae, limb and girdle)</li> <li>3. Comparative study of heart and brain, with the help of model/picture</li> <li>4. Identification of skulls: Pigeon, one herbivore (Guineapig) and one carnivore (Dog) animal</li> </ol>		

## PART II: SEMESTER 4

### CORE COURSE 9: Animal Physiology: Life Sustaining Systems

#### ZOOA-CC4-9-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Physiology of Digestion</b>		10
Structural organisation and function of gastro-intestinal tract; Mechanical and chemical digestion of food, absorption of Carbohydrates, Lipids and Proteins in Human		
<b>Unit 2: Physiology of Respiration</b>		10
Mechanism of Respiration, Respiratory volumes and capacities, transport of Oxygen and Carbon dioxide in blood, Dissociation curves and the factors influencing it, respiratory pigments; Carbon monoxide poisoning		
<b>Unit 3: Physiology of Circulation</b>		8
Structure and functions of haemoglobin; Blood clotting system; Haematopoiesis; Basic steps and its regulation; Blood groups; ABO and Rh factor		
<b>Unit 4: Physiology of Heart</b>		8
Coronary Circulation, Structure and working of conducting myocardial fibres, Origin and conduction of cardiac impulses; Cardiac Cycle and cardiac output		
<b>Unit 5: Thermoregulation &amp; Osmoregulation</b>		6
Thermal regulation in camel and polar bear, Osmoregulation in aquatic vertebrates		
<b>Unit 6: Renal Physiology</b>		8
Structure of Kidney and its functional unit, Mechanism of urine formation, Regulation of acid-base balance		



## Animal Physiology: Life Sustaining Systems Lab; ZOOA-CC4-9-P

Full Marks 30	60 Hours	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Determination of ABO Blood group</li> <li>2. Estimation of haemoglobin using Sahli's haemoglobin meter</li> <li>3. Identification of blood cells from human blood</li> <li>4. Preparation of haemin crystals and haemochromogen crystals</li> <li>5. Identification of blood cells from cockroach haemolymph</li> <li>6. Demonstration of blood pressure by digital meter</li> </ol>		

## PART II: SEMESTER 4

### CORE COURSE 10: Immunology

### ZOOA-CC4-10-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Overview of Immune System</b>		3
Introduction – concept of health and disease; Cells and organs of the Immune system		
<b>Unit 2: Innate and Adaptive Immunity</b>		9
Anatomical barriers, Inflammation, Cell and molecules involved in innate immunity, Adaptive immunity (Cell mediated and humoral).		
<b>Unit 3: Antigens</b>		6
Antigenicity and immunogenicity, Immunogens, Adjuvants and haptens, Factors influencing immunogenicity, B and T-Cell epitopes		
<b>Unit 4: Immunoglobulins</b>		10
Structure and functions of different classes of immunoglobulins, Antigen-antibody interactions, Immunoassays (ELISA and RIA), Monoclonal antibody production		
<b>Unit 5: Major Histocompatibility Complex</b>		6
Structure and functions of MHC molecules. Structure of T cell Receptor and its signalling, T cell development & selection		
<b>Unit 6: Cytokines</b>		3
Types, properties and functions of cytokines.		

<b>Unit 7: Complement System</b>	5
Components and pathways of complement activation.	
<b>Unit 8: Hypersensitivity</b>	4
Gell and Coombs' classification and brief description of various types of hypersensitivities.	
<b>Unit 9: Vaccines</b>	4
Various types of vaccines. Active & passive immunization (Artificial and natural).	

### Immunology Lab; ZOOA-CC4-10-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Demonstration of lymphoid organs (by picture).</li> <li>2. Histological study of Bursa fabricius, spleen, thymus and lymph nodes through slides/ photographs</li> <li>3. Demonstration of ELISA</li> </ol>		

### PART III: SEMESTER 5

#### CORE COURSE 11.Ecology

#### ZOOA-CC5-11-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Introduction to Ecology</b>	4	
Autecology and synecology, Levels of organization, Laws of limiting factors, Study of Physical factors, The Biosphere.		
<b>Unit 2: Population</b>	20	
Unitary and Modular populations Unique and group attributes of population: Demographic factors, life tables, fecundity tables, survivorship curves, dispersal and dispersion. Geometric, exponential and logistic growth, equation and patterns, r and K strategies Population regulation - density-dependent and independent factors, Population Interactions, Gause's Principle with laboratory and field examples, Lotka-Volterra equation for competition.		
<b>Unit 3: Community</b>	11	
Community characteristics: species diversity, abundance, dominance, richness, Vertical stratification, Ecotone and edge effect; Ecological succession with one example.		

<b>Unit 4: Ecosystem</b>	8
Types of ecosystem with an example in detail, Food chain: Detritus and grazing food chains, Linear and Y-shaped food chains, Food web, Energy flow, Ecological pyramids and Ecological efficiencies; Nitrogen cycle.	
<b>Unit 5: Applied Ecology</b>	7
Types & level of biodiversity Mega-diversity countries, Biodiversity Hot spot, Flagship species, Keystone species, Wildlife Conservation ( <i>in situ</i> and <i>ex situ</i> conservation), concept of protected areas. Red data book, Indian wild life act & Schedule. Concept of corridor, advantages and problem of corridor. Threats to survival and conservation strategies for Tiger, Olive ridley, White Rumped Vulture.	

### Ecology Lab, ZOOA-CC5-11-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Determination of population density in a natural/hypothetical community by quadrat method and calculation of Shannon-Weiner diversity index for the same community</li> <li>2. Study of an aquatic ecosystem: Phytoplankton and zooplankton, Measurement of area, temperature, salinity, determination of pH, and Dissolved Oxygen content (Winkler's method), Chemical Oxygen Demand and free CO<sub>2</sub></li> <li>3. Report on a visit to National Park/Biodiversity Park/Wild life sanctuary/ any place of ecological interest/ ecological uniqueness/ Zoological garden</li> </ol>		

## PART III: SEMESTER 5

### CORE COURSE 12.Principle of Genetics

#### ZOOA-CC5-12-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>Class</b>
<b>Unit 1: Mendelian Genetics and its Extension</b>	12	
Principles of inheritance, Incomplete dominance and co-dominance, Epistasis, Multiple alleles, Isoallele (White eye mutations), Pseudoallele (Lozenge Locus) & Cis-trans test for allelism, Lethal alleles, Pleiotropy, Penetrance & Expressivity		
<b>Unit 2: Linkage, Crossing Over and Linkage Mapping</b>	8	
Linkage and Crossing, Complete & Incomplete Linkage, Measuring Recombination frequency and linkage map construction using three factor crosses, Interference and coincidence Sex linkage in <i>Drosophila</i> (White eye locus) & Human (Haemophilia).		

<b>Unit 3: Mutations</b>	12
Types of gene mutations (Classification), Types of chromosomal aberrations (Classification with one suitable example from <i>Drosophila</i> and Human of each), variation in chromosome number; Non-disjunction of X chromosome in <i>Drosophila</i> ; Non-disjunction of Human Chromosome 21. Molecular basis of mutations in relation to UV light and chemical mutagens. Mutation detection in <i>Drosophila</i> by attached X method. Biochemical mutation detection in <i>Neurospora</i> .	
<b>Unit 4: Sex Determination</b>	8
Mechanisms of sex determination in <i>Drosophila</i> and in man; Dosage compensation in <i>Drosophila</i> & Human	
<b>Unit 5: Extra-chromosomal Inheritance</b>	2
Kappa particle in <i>Paramoecium</i> , Shell spiralling in snail	
<b>Unit 6: Genetic Fine Structure</b>	2
Complementation test in Bacteriophage (Benzer's experiment on rII locus)	
<b>Unit 7: Transposable Genetic Elements</b>	6
IS element in bacteria, Ac-Ds elements in maize and P elements in <i>Drosophila</i> , LINE, SINE, Alu elements in humans	

### Principles of Genetics Lab, ZooA-CC5-12-P

<b>Full marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Chi-square analyses for genetic ratio test</li> <li>2. Identification of chromosomal aberration in <i>Drosophila</i> and man from photograph</li> <li>3. Pedigree analysis of some inherited traits in animals</li> </ol>		

### PART III: SEMESTER 6

#### CORE COURSE 13: Developmental Biology

#### ZOOA-CC6-13-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Early Embryonic Development</b>		20
Gametogenesis: Spermatogenesis, Oogenesis (sea urchin & mammal); Types of eggs, Egg membranes; Fertilization in sea urchin and mammal; Planes and patterns of cleavage; Types of Blastula [frog and chick]; Fate map in chick embryo, fate mapping using vital dye and radioactive technique; Gastrulation in frog and chick; Embryonic induction and organizers in <i>Xenopus</i> (Spemann & Mangold's experiment)		

<b>Unit 2: Late Embryonic Development</b>	10
Extra-embryonic membranes in Chick; Implantation of embryo in humans, Placenta (Structure, types and functions of placenta)	
<b>Unit 3: Post Embryonic Development</b>	8
Development of brain and Eye in Chick. Molecular Induction in Brain and Eye development.	
<b>Unit 4: Implications of Developmental Biology</b>	12
<i>In vitro</i> fertilization (IVF), Stem cell: Concept of potency, types, markers and applications of stem cell therapy in bone marrow transplantation and cartilage regeneration	

### Developmental Biology Lab; ZOOA-ZooA-CC6-13-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>Study of whole mounts of developmental stages of chick embryo through permanent slides: 24, 48, and 96 hours of incubation</li> <li>Study of the developmental stages and life cycle of <i>Drosophila</i></li> <li>Study of different sections of placenta (photomicrograph/ slides)</li> <li>Identification of Invertebrate larva through slides/ photographs of Phylum Annelida, Arthropoda, Mollusca and Echinodermata</li> </ol>		

### PART III: SEMESTER 6

#### CORE COURSE 14.Evolutionary Biology

#### ZOOA-CC6-14-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1</b>		<b>5</b>
Origin of Life (Chemical basis), RNA world hypothesis		
<b>Unit 2</b>		<b>5</b>
Historical review of Evolutionary concepts: Lamarkism, Darwinism and Neo Darwinism		
<b>Unit 3</b>		<b>6</b>
Geological time scale, Fossil: types and age determination by Carbon dating, Evolution of horse		
<b>Unit 4</b>		<b>6</b>
Natural Selection: Modes with Examples;		

<b>Unit 5</b>	<b>10</b>
Species concept, Isolating mechanisms, modes of speciation; Speciation by chromosome rearrangement in <i>Drosophila</i> . Adaptive radiation/macroevolution (exemplified by Galapagos finches).	
<b>Unit 6</b>	<b>2</b>
Origin and Evolution of Man, Unique Hominid characteristics contrasted with primate characteristic	
<b>Unit 7</b>	<b>10</b>
Population genetics: Hardy-Weinberg Law; factors disrupting H-W equilibrium (Genetic Drift, Migration and Mutation and Selection in changing allele frequencies (only derivations required). Simple problems related to estimation of allelic and gene frequencies.	
<b>Unit 8</b>	<b>3</b>
Extinction, back ground and mass extinctions, detailed example of K-T extinction	
<b>Unit 9</b>	<b>5</b>
Phylogenetic trees, construction and interpretation of Phylogenetic tree using parsimony, convergent and divergent evolution.	

### Evolutionary Biology Lab, ZooA-CC6-14-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Study of fossils from models/ pictures: Dickinsonia, Paradoxides (Trilobita), Asteroceas (Ammonoid), Pentremites (Blastoid Echinoderm), Ichthyosaur, Archaeopteryx, Cynodont.</li> <li>2. Study of homology and analogy from suitable specimens.</li> <li>3. Phylogenetic trees, Construction &amp; interpretation of Phylogenetic tree using parsimony, Construction of dendrogram following principles of phenetics &amp; cladistics from a data table.</li> </ol>		

## Discipline Specific Elective

[Students will choice either of ZOOA-DSE(A)-5-1-TH or ZOOA-DSE(A)-5-2-TH]

### PART III: SEMESTER 5

#### DSE1. Parasitology

#### ZOOA-DSE(A)-5-1-TH

Full Marks 50	4 Credits	50 hours
<b>Unit 1: Introduction to Parasitology</b>		2
Brief introduction of Parasitism, Parasite, Parasitoid and Vectors (mechanical and biological vector); Host parasite relationship		
<b>Unit 2: Parasitic Protists</b>		12
Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment of <i>Giardia intestinalis</i> , <i>Trypanosoma gambiense</i> , <i>Leishmania donovani</i>		
<b>Unit 3: Parasitic Platyhelminthes</b>		12
Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment of <i>Schistosoma haematobium</i> , <i>Taenia solium</i>		
<b>Unit 4: Parasitic Nematodes</b>		12
Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment of <i>Ascaris lumbricoides</i> , <i>Ancylostoma duodenale</i> , <i>Wuchereria bancrofti</i> , Nematode plant interaction.		
<b>Unit 5: Parasitic Arthropods</b>		10
Biology, importance and control of ticks: Soft tick ( <i>Ornithodoros</i> ), Hard tick ( <i>Ixodes</i> ), mites ( <i>Sarcoptes</i> ), Lice ( <i>Pediculus</i> ), Flea ( <i>Xenopsylla</i> ) and Bug ( <i>Cimex</i> ). Parasitoid.		
<b>Unit 6: Parasite Vertebrates</b>		2
Cookicutter Shark, Hood Mocking bird, Vampire bats their parasitic behaviour and effect on host.		

#### Parasitology Lab, ZOOA-DSE(A)-5-1-P

Full Marks 30	60 Hours	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>Study of life stages of <i>Giardia intestinalis</i>, <i>Trypanosoma gambiense</i>, <i>Leishmania donovani</i>, <i>Plasmodium vivax</i>, <i>Plasmodium falciparum</i> through permanent slides/micro photographs</li> <li>Study of adult and life stages of <i>Schistosoma haematobium</i>, <i>Taenia solium</i> through permanent slides/micro photographs</li> <li>Study of adult and life stages of <i>Ancylostoma duodenale</i> through permanent slides/micro photographs.</li> </ol>		

4. Study of monogenea from the gills of fresh/marine fish [Gills can be procured from fish market as by product of the industry]
5. Study of nematode/cestode parasites from the intestines of Poultry bird [Intestine can be procured from poultry/market as a by-product] & Goat.

Submission of a brief report on parasitic vertebrates

### **PART III: SEMESTER 5**

#### **DSE2. Biology of Insects**

#### **ZOOA-DSE(A)-5-2-TH**

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Insect Taxonomy</b>		<b>4</b>
Basis of insect classification; Classification of insects up to orders (Ruppert and Barnes, 1994)		
<b>Unit 2: General Morphology of Insects</b>		<b>6</b>
External Features; Head – Eyes, Types of antennae, Mouth parts with respect to feeding habits Thorax: Wings and wing articulation, Types of Legs adapted to diverse habitat Abdominal appendages and genitalia		
<b>Unit 3: Physiology of Insects</b>		<b>20</b>
Structure and physiology of Insect body systems - Digestive, respiratory, endocrine and nervous system Photoreceptors: Types, Structure and Function Metamorphosis: Types and Neuroendocrine control of metamorphosis		
<b>Unit 4: Insect Society</b>		<b>7</b>
Social insects with special reference to termites Trophallaxis in social insects such as ants, termites and bees		
<b>Unit 5: Insect Plant Interaction</b>		<b>4</b>
Theory of co-evolution, role of allelochemicals in host plant mediation Host-plant selection by phytophagous insects, Major insect pests in paddy		
<b>Unit 6: Insects as Vectors</b>		<b>9</b>
Insects as mechanical and biological vectors, Brief discussion on houseflies and mosquitoes as important vectors		



## Biology of Insect Lab, ZOOA-DSE(A)-5-2-P

<b>Full Marks 30</b>	<b>60 Hours</b>	2 Credits
----------------------	-----------------	-----------

### List of Practical

1. Study of life cycle of Mosquito
2. Study of different kinds of antennae, legs and mouth parts of insects
3. Mounting of insect wings any insects
4. Methodology of collection, preservation and identification of insects.
5. Morphological studies of various castes of *Apis*, *Ant-Camponotus*, Termite-*Odontotermes*
6. Study of major insect pests of paddy and their damages
7. Study of Mulberry silk moth as beneficial insect

**Students will choice either of ZOOA-DSE(B)-5-1-TH or ZOOA-DSE(B)-5-2-TH**

## PART III: SEMESTER 5

### DSE1. Endocrinology

#### ZOOA-DSE(B)-5-1-TH

<b>Full Marks 50</b>	4 Credits	50 Hours
<b>Unit 1: Introduction to Endocrinology</b>		<b>6</b>
General idea of Endocrine systems, Classification, Characteristic and Transport of Hormones, Neuro-secretions and Neuro-hormones: Examples and Functions		
<b>Unit 2: Hypothalamo-Hypophyseal Axis</b>		12
Structure and functions of hypothalamus and Hypothalamic nuclei, Regulation of neuroendocrine glands, Feedback mechanisms, Hypothalamo-Hypophyseal-Gonadal Axis. Structure of pituitary gland, Hormones and their functions, Hypothalamo-hypophyseal portal system		
<b>Unit 3: Peripheral Endocrine Glands</b>		12
Structure, Hormones and Functions of Thyroid gland, Parathyroid, Adrenal, Pancreas, Ovary and Testis. Disorders of endocrine glands ( <i>Diabetes mellitus</i> type I & Type II; Graves' Disease).		
<b>Unit 4: Regulation of Hormone Action</b>		12
Mechanism of action of steroidal, non-steroidal hormones with receptors (cAMP, IP3-DAG), Calcium and Glucose homeostasis in mammals. Bioassays of hormones using RIA & ELISA, Estrous cycle in rat and menstrual cycle in human.		

<b>Unit 5. Non Mammalian Vertebrate Hormone</b>	<b>8</b>
Functions of Prolactin in Fishes, Amphibia & Birds Function of Melanotropin in Teleost fishes, Amphibians and Reptiles.	

### **Endocrinology Lab, ZOOA-DSE(B)-5-1-P**

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Dissect and display of Endocrine glands in laboratory bred rat.</li> <li>2. Study of the permanent slides of all the endocrine glands</li> <li>3. Tissue fixation, embedding in paraffin, microtomy and slide preparation of any endocrine gland.</li> <li>4. H-E staining of Histological slides.</li> </ol>		

## **PART III: SEMESTER 5**

### **DSE2. Reproductive Biology**

### **ZOOA-DSE(B)-5-2-TH**

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Reproductive Endocrinology</b>		<b>10</b>
Mechanism of action of steroid and glycoprotein hormones. Hypothalamo – Hypophyseal – gonadal axis, regulation of gonadotrophin secretion in human (male and female); Reproductive system: Development and differentiation of gonads, genital ducts and external genitalia		
<b>Unit 2: Functional anatomy of male reproduction</b>		<b>14</b>
Histoarchitecture of testis in human; Spermatogenesis and its hormonal regulation; Androgen synthesis and metabolism; Accessory glands functions		
<b>Unit 3: Functional anatomy of female reproduction</b>		<b>18</b>
Histoarchitecture of ovary in human; Oogenesis and its hormonal regulation; Steroidogenesis and secretion of ovarian hormones; Reproductive cycles (human) and their regulation, Fertilization; Hormonal control of implantation; Hormonal regulation of gestation, pregnancy diagnosis, fetomaternal relationship; Mechanism of parturition and its hormonal regulation; Lactation and its regulation		
<b>Unit 4: Reproductive Health</b>		<b>8</b>
Infertility in male and female: causes, diagnosis and management, Assisted Reproductive Technology: Sex selection, sperm banks, frozen embryos, <i>in vitro</i> fertilization IVF & IUI Modern contraceptive technologies		

## Reproductive Biology Lab, ZOOA-DSE(B)-5-2-P

<b>Full Marks 50</b>	<b>60 Hours</b>	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Study of animal house: set up and maintenance of animal house, breeding techniques, care of normal and experimental animals ( only demonstration through chart).</li> <li>2. Tissue fixation, embedding in paraffin, microtomy and slide preparation of any endocrine gland.</li> <li>3. H-E staining of histological slides.</li> <li>4. Examination of histological sections from photomicrographs/ permanent slides of rat/human: testis, epididymis and accessory glands of male reproductive systems; ovary, fallopian tube, uterus (proliferative and secretory stages), cervix and vagina.</li> </ol>		

**Students will choice either of ZOOA-DSE(A)-6-1-TH or ZOOA-DSE(A)-6-2-TH**

### PART III: SEMESTER 6

#### DSE1. Animal Cell Biotechnology

#### ZOOA-DSE(A)-6-1-TH

<b>Full Marks 50</b>	4 Credits	50 Hours
<b>Unit 1: Introduction</b>		2
Concept and Scope of Biotechnology		
<b>Unit 2: Techniques in Gene manipulation</b>		15
Recombinant DNA technology, Restriction endonucleases. Cloning Vectors & their features: Plasmids, Phage vectors, Cosmids, Phagemids, BAC, YAC, and HAC. Shuttle and Expression Vectors. Construction of Genomic libraries and cDNA libraries Transformation techniques: Cloning in bacteria and detection technique of clone		
<b>Unit 3: Animal cell Culture</b>		15
Basic techniques in animal cell culture and organ culture, Primary Culture and Cell lines, Culture media – Natural and Synthetic, Stem cells, Cryopreservation of cultures. Agarose and Polyacrylamide Gel Electrophoresis, Southern, Northern and Western blotting, Polymerase chain reaction: Allele specific, RAPD & RT PCR.		
<b>Unit 4: Fermentation</b>		10
Different types of Fermentation: Submerged & Solid state; batch, Fed batch & Continuous; Stirred tank, Air Lift, Fixed Bed and Fluidized. Downstream Processing: Filtration, centrifugation, extraction, chromatography, spray drying and lyophilization.		

<b>Unit 5: Application in Health</b>	8
Hybridoma technology, Production of recombinant Proteins: Insulin and growth hormones.	

### Animal Cell Biotechnology Lab, ZOOA-DSE(A)-6-1-P

<b>Full Marks 50</b>	<b>60 Hours</b>	2 Credits
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Packing and sterilization of glass and plastic wares for cell culture.</li> <li>2. Preparation of culture media.</li> <li>3. Preparation of genomic DNA from E. coli/animals/ human.</li> <li>4. Plasmid DNA isolation (pUC 18/19) and DNA quantitation using agarose gel electrophoresis (by using lambda DNA as standard).</li> <li>5. Techniques: Western Blot, Southern Hybridization, DNA Fingerprinting, PCR, DNA Microarrays (By Photograph).</li> </ol>		

### PART III: SEMESTER 6

#### DSE2. Animal Biotechnology

#### ZOOA-DSE(A)-6-2-TH

<b>Full Marks 50</b>	4 Credits	Class
<b>Unit 1: Introduction</b>		5
Organization of <i>E.coli</i> and <i>Drosophila</i> genome.		
<b>Unit 2: Molecular Techniques in Gene manipulation</b>		23
Recombinant DNA technology, Restriction endonucleases. Cloning Vectors & their features: Plasmids, Phage vectors, Cosmids, Phagemids, BAC, YAC, and HAC. Shuttle and Expression Vectors. Construction of Genomic libraries and cDNA libraries Transformation techniques: Cloning in bacteria and detection technique of clone Agarose and Polyacrylamide Gel Electrophoresis, Southern, Northern and Western blotting, Polymerase chain reaction: Allele specific, RAPD & RT PCR, DNA Fingerprinting		
<b>Unit 3: Genetically Modified Organisms</b>		12
Production of cloned and transgenic animals: Nuclear Transplantation, Retroviral Method, DNA microinjection. Applications of transgenic animals: Production of pharmaceuticals, production of donor organs, knock-out mice.		
<b>Unit 4: Culture Techniques and Applications</b>		10
Animal cell culture, Expressing cloned genes in mammalian cells, Molecular diagnosis of		

genetic diseases (Cystic fibrosis, Sickle cell anaemia, Thalassemia). Dolly & Polly cloning Genetically modified economically important animal Gene Therapy	
--	--

### **Animal Biotechnology Lab, ZOOA-DSE(A)-6-2-P**

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Genomic DNA isolation from <i>E. coli</i> and Plasmid DNA isolation (pUC 18/19) from <i>E. coli</i></li> <li>2. To study following techniques through photographs - Southern Blotting, Northern Blotting, Western Blotting, PCR, DNA fingerprinting</li> <li>3. Project report on animal cloning &amp; Application &amp; ethical Issues.</li> </ol>		

**Students will choice either of ZOOA-DSE(B)-6-1-TH or ZOOA-DSE(B)-6-2-TH**

## **PART III: SEMESTER 6**

### **DSE1. Animal Behaviour and Chronobiology**

#### **ZOOA-DSE(B)-6-1-TH**

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Patterns of Behaviour</b>		10
Stereotyped Behaviours (Orientation, Reflex); Individual Behavioural patterns; Instinct vs. Learned Behaviour; FAP, Associative learning, classical and operant conditioning, Habituation, Imprinting.		
<b>Unit 2: Social and Sexual Behaviour</b>		20
Social organisation in termites; Communication (dance & pheromones in Bees) Social behaviour: Altruism (Hamilton's rule and concept of haplodiploidy), Cooperation and Selfishness Sexual Behaviour: Sexual dimorphism, Mate choice in peacock, Intra-sexual selection (male rivalry in red deer) Kinship theory: Relatedness & inclusive fitness; parental care in fishes (Nest Building & coast benefit), conflict within families: parent offspring conflict and sibling rivalry		
<b>Unit 3: Chronobiology &amp; Biological Rhythm</b>		20
Types and characteristics of biological rhythms: Short- and Long- term rhythms; Circadian rhythms; Tidal rhythms and Lunar rhythms, Circannual rhythms; Photic and non-photic zeitgebers; Role of melatonin. Biological clock and its adaptive significance. Circannual rhythm in bird migration.		

## Animal Behaviour and Chronobiology Lab, ZOOA-DSE(B)-6-1-P

<b>Full Marks 50</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. To study nests and nesting habits of the birds and social insects.</li> <li>2. To study the behavioural responses of wood lice to dry and humid conditions(demonstration only).</li> <li>3. To study geotaxis behaviour in earthworm.</li> <li>4. To study the phototaxis behaviour in insect larvae.</li> <li>5. Visit to Forest/ Wild life Sanctuary/Biodiversity Park/Zoological Park to study behavioural activities of animals and prepare a short report.</li> <li>6. Study of circadian functions in humans (daily eating, sleep and temperature patterns).</li> </ol>		

## PART III: SEMESTER 6

### DSE2. Fish and Fisheries

#### ZOOA-DSE(B)-6-2-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Introduction and Classification</b>		<b>4</b>
Feeding habit, habitat and manner of reproduction. Classification of fish (upto Subclasses) (Romar, 1959)		
<b>Unit 2: Morphology and Physiology</b>		<b>14</b>
Types of fins and their modifications; Locomotion in fish; Hydrodynamics; Types of Scales, Use of scales in Classification and determination of age of fish; Gills and gas exchange; Swim Bladder: Types and role in Respiration, buoyancy; Electric organ, Bioluminescence		
<b>Unit 3: Fisheries</b>		<b>10</b>
Inland Fisheries; Marine Fisheries; Fishing crafts and Gears; Depletion of fisheries resources; Application of remote sensing and GIS in fisheries; Fisheries law and regulations		
<b>Unit 4: Aquaculture</b>		<b>16</b>
Extensive, semi-intensive and intensive culture of fish; Pen and cage culture; Polyculture; Composite fish culture; Brood stock management; Induced breeding of fish; Management of finfish hatcheries; Preparation and maintenance of fish aquarium; Preparation of compound diets for fish; Role of water quality in aquaculture; Fish diseases: Bacterial, viral and parasitic; Preservation and processing of harvested fish, Fishery by-products		
<b>Unit 5: Fish in research</b>		<b>6</b>
Transgenic fish Zebra fish as a model organism in research		

## Fish and Fisheries Lab, ZOOA-DSE(B)-6-2-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Morphometric and meristic characters of fishes</li> <li>2. Identification of <i>Petromyzon</i>, <i>Myxine</i>, <i>Pristis</i>, <i>Exocoetus</i>, <i>Hippocampus</i>, <i>Gambusia</i>, <i>Labeo</i>, <i>Heteropneustes</i>, <i>Anabas</i></li> <li>3. Study of different types of scales (through permanent slides/ photographs).</li> <li>4. Study of crafts and gears used in Fisheries (Photographs)</li> <li>5. Water quality criteria for Aquaculture: Assessment of pH, alkalinity, Salinity.</li> <li>6. Study of air breathing organs in <i>Channa</i>, <i>Heteropneustes</i>, <i>Anabas</i> and <i>Clarias</i></li> <li>7. Project Report on a visit to any fish farm/ pisciculture unit/Zebrafish rearing Lab.</li> </ol>		

### Skill Enhancement courses (SEC)

[A student will choice either ZOOA-SEC(A)-3-1 or ZOOA-SEC(A)3-2]

#### PART II: SEMESTER 3

##### SEC-1 Apiculture

##### ZOOA-SEC(A)-3-1-TH

<b>Full Marks 80</b>	<b>2 Credits</b>	<b>30 Hours</b>
<b>Unit 1: Biology of Bees</b>		<b>2</b>
<i>Apis</i> and Non- <i>Apis</i> Bee species and their identification. General Morphology of <i>Apis</i> Honey Bees Social Organization of Bee Colony		
<b>Unit 2: Rearing of Bees</b>		<b>14</b>
Artificial Bee rearing (Apiary), Beehives – Newton and Langstroth box Bee Pasturage Selection of Bee Species for Apiculture Modern Bee Keeping Equipment Methods of Extraction of Honey (Indigenous and Modern)		
<b>Unit 3: Diseases and Enemies</b>		<b>6</b>
Bee Diseases and Enemies Control and Preventive measures		
<b>Unit 4: Bee Economy</b>		<b>2</b>
Products of Apiculture Industry and its Uses – Honey, Bees Wax, Propolis, Pollen etc.		
<b>Unit 5: Entrepreneurship in Apiculture</b>		<b>6</b>
Bee Keeping Industry – Recent Efforts, Modern Methods in employing artificial Beehives for cross pollination in horticultural gardens		

## PART II: SEMESTER 3

### SEC-2.Sericulture

#### ZOOA-SEC(A)-3-2-TH

Full Marks 80	2 Credits	30 Hours
<b>Unit 1: Introduction</b>		<b>6</b>
Sericulture: Definition, history and present status; Silk route Types of silkworms, Distribution and Races Exotic and indigenous races Mulberry and non-mulberry Sericulture		
<b>Unit 2: Biology of Silkworm</b>		<b>4</b>
Life cycle of <i>Bombyx mori</i> Structure of silk gland and secretion of silk		
<b>Unit 3: Rearing of Silkworms</b>		<b>10</b>
Selection of mulberry variety and establishment of mulberry garden Rearing house and rearing appliances. Disinfectants: Formalin, bleaching powder, RKO Silkworm rearing technology: Early age and Late age rearing Types of mountages Spinning, harvesting and storage of cocoons		
<b>Unit 4: Pests and Diseases</b>		<b>7</b>
Pests of silkworm: Uzi fly, dermestid beetles and vertebrates Pathogenesis of silkworm diseases: Protozoan, viral, fungal and bacterial Control and prevention of pests and diseases		
<b>Unit 5: Entrepreneurship in Sericulture</b>		<b>3</b>
Prospectus of Sericulture in India: Sericulture industry in different states, employment, potential in mulberry and non-mulberry sericulture Visit to various sericulture centres.		

[A student has to choose either ZOOA-SEC(B)-4-1 or ZOOA-SEC(B)4-2]

---



**PART II: SEMESTER 4**  
**SEC-1.Aquarium Fish Keeping**  
**ZOOA-SEC(B)-4-1-TH**

<b>Full Marks 80</b>	<b>2 Credits</b>	<b>30 Hours</b>
<b>Unit 1: Introduction to Aquarium Fish Keeping</b>		<b>2</b>
The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes		
<b>Unit 2: Biology of Aquarium Fishes</b>		<b>10</b>
Common characters and sexual dimorphism of Fresh water and Marine Aquarium fishes such as Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish and Butterfly fish		
<b>Unit 3: Food and feeding of Aquarium fishes</b>		<b>8</b>
Use of live fish feed organisms. Preparation and composition of formulated fish feeds, Aquarium fish as larval predator		
<b>Unit 4: Fish Transportation</b>		<b>5</b>
Live fish transport - Fish handling, packing and forwarding techniques.		
<b>Unit 5: Maintenance of Aquarium</b>		<b>5</b>
General Aquarium maintenance – budget for setting up an Aquarium Fish Farm as a Cottage Industry		

**PART II: SEMESTER 4**  
**SEC-2.Medical Diagnostic Technique**  
**ZOOA-SEC(B)-4-2-TH**

<b>Full Marks 80</b>	<b>2 Credits</b>	<b>30 Hours</b>
<b>Unit 1: Diagnostics Methods Used for Analysis of Blood</b>		<b>8</b>
Blood composition, Differential Leucocyte Count (DLC) using Leishman's stain, Platelet count using haemocytometer, Erythrocyte Sedimentary Rate (ESR), Packed Cell Volume (PCV)		
<b>Unit 2: Diagnostic Methods Used for Urine Analysis</b>		<b>4</b>
Urine Analysis: Physical characteristics; Abnormal constituents, Urine culture		
<b>Unit 3: Non-infectious Diseases</b>		<b>6</b>
Causes, types, symptoms, complications, diagnosis and prevention of Diabetes (Type I and Type		

II), Hypertension (Primary and secondary), Testing of blood glucose using Glucometer/Kit	
<b>Unit 4: Infectious Diseases</b>	<b>3</b>
Causes, types, symptoms, diagnosis and prevention of Tuberculosis and Hepatitis, Malarial parasite (Microscope based and ELISA based)	
<b>Unit 5: Clinical Biochemistry</b>	<b>1</b>
Lipid profiling, Liver function test. PSA test	
<b>Unit 6: Clinical Microbiology</b>	<b>1</b>
Antibiotic Sensitivity Test	
<b>Unit 7: Tumours</b>	<b>2</b>
Types (Benign/Malignant), Detection and metastasis; Medical imaging: X-Ray of Bone fracture, PET, MRI and CT Scan (using photographs).	
<b>Unit 8: Visit to Pathological Laboratory and Submission of Project</b>	<b>6</b>

**UNIVERSITY OF CALCUTTA**

**CBCS SYLLABUS FOR ZOOLOGY**

**F  
O  
R**

**THREE-YEAR GENERAL  
DEGREE COURSE OF STUDIES**



**ZOOLOGY**

**2018**

## Outline Structure of CBCS Curriculum For Zoology (General), C.U.

<b>PART I; SEM I</b>				
Subject Code	Name of Paper	Theory	Practical	Internal assessment
CC1/GE1	Animal Diversity	50	30	20
<b>PART I; SEM II</b>				
CC2/GE2	Comparative Anatomy & Developmental Biology	50	30	20
<b>PART II; SEM III</b>				
CC 3/GE3	Physiology and Biochemistry	50	30	20
SEC-A (1)	Apiculture	80	NA	20
<b>PART II; SEM IV</b>				
CC 4/GE4	Genetics and Evolutionary Biology	50	30	20
SEC- B(1)	Aquarium Fish Keeping	80	NA	20
<b>PART III; SEM V</b>				
DSE A(1)	Applied Zoology	50	30	20
DSE B (1)	Aquatic biology	50	30	20
SEC-A (1)	Sericulture	80	NA	20
<b>PART III; SEM VI</b>				
DSE A (1)	Biology of Insect	50	30	20
DSE B (2)	Ecology & Wild life Biology	50	30	20
SEC-B (1)	Medical diagnosis	80	NA	20

### Abbreviations:

CC: Core Course; DSE A/B: Discipline Specific Elective A/B; SEC A/B: Skill Enhancement Course.

### SUBJECT/PAPER CODE FORMAT

4. Subject Code: ZOO
5. Honours Code: G
6. Course Code: a) Core Course:CC  
b) Discipline Specific Elective: DSE-A/DSE-B  
c) Skill Enhancement Course: SEC-A/SEC-B
4. Semester Code: 1/2/3/4/5/6
5. Paper No. Code: 1/2/3...../14
6. Paper Component Code: a) Theory:TH, b) Practical: P

# INDEX

## CBCS ZOOLOGY (GENERAL), Papers & Their Codes

Code	Paper	Page
<b>Core Course</b>		
ZOOG-CC1-1-TH	Animal diversity Theory	36
ZOOG-CC1-1-P	Animal diversity Lab	37
ZOOG-CC2-2-TH	Comparative Anatomy & Developmental Biology Theory	37
ZOOG-CC2-2-P	Comparative Anatomy & Developmental Biology Lab	38
ZOOG-CC3-3-TH	Physiology and Biochemistry Theory	38
ZOOG-CC3-3-P	Physiology and Biochemistry Lab	39
ZOOG-CC4-4-TH	Genetics and Evolutionary Biology Theory	39
ZOOG-CC4-4-P	Genetics and Evolutionary Biology Lab	40
<b>Discipline Specific Electives</b>		
ZOOG-DSE(A)-5-1-TH	Applied Zoology Theory	40
ZOOG-DSE(A)-5-1-P	Applied Zoology Lab	41
ZOOG-DSE(A)-5-2-TH	Aquatic Biology Theory	42
ZOOG-DSE(A)-5-1-P	Aquatic Biology Lab	42
ZOOA-DSE(B)-6-1-TH	Biology of Insect Theory	43
ZOOA-DSE(B)-6-1-P	Biology of InsectLab	43
ZOOA-DSE(B)-6-2-TH	Ecology & Wild life BiologyTheory	44
ZOOA-DSE(B)-6-2-P	Ecology & Wild life BiologyLab	44
<b>Skill Enhancement Course</b>		
ZOOG-SEC(A)-3-1-TH	Apiculture	45
ZOOA-SEC(B)-4-2-TH	Aquarium Fishery	45
ZOOA-SEC(A)-5-3-TH	Sericulture	46
ZOOA-SEC(B)-6-4-TH	Medical Diagnosis	46

**PART I: SEMESTER 1.**  
**CORE COURSE 1. Animal Diversity**  
**ZOOG-CC1-1-TH**

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Kingdom Protista</b>		2
General characters and classification up to classes (Levine et. al., 1980); Locomotory Organelles and locomotion in <i>Amoeba</i> and <i>Paramecium</i>		
<b>Unit 2: Phylum Porifera</b>		2
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Canal System in <i>Sycon</i>		
<b>Unit 3: Phylum Cnidaria</b>		2
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Metagenesis in <i>Obelia</i>		
<b>Unit 4: Phylum Platyhelminthes</b>		2
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Life history of <i>Taenia solium</i>		
<b>Unit 5: Phylum Nemathelminthes</b>		2
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Life history of <i>Ascaris lumbricoides</i> and its adaptation		
<b>Unit 6: Phylum Annelida</b>		4
General characters and classification up to classes (Rupert and Barnes, 1994, 6 <sup>th</sup> Ed.); Metamerism in Annelida		
<b>Unit 7: Phylum Arthropoda</b>		4
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Eye in Cockroach, Metamorphosis in Lepidoptera		
<b>Unit 8: Phylum Mollusca</b>		2
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Respiration in <i>Pila</i>		
<b>Unit 9: Phylum Echinodermata</b>		4
General characters and classification up to classes (Ruppert and Barnes, 1994, 6 <sup>th</sup> Ed.); Water-vascular system in Asteroidea		
<b>Unit 10: Protochordates</b>		2
General Characters ; Pharynx and feeding mechanism in <i>Amphioxus</i>		
<b>Unit 11: Agnatha</b>		2
General features of Agnatha and classification of cyclostomes up to classes (Young, 1981)		

<b>Unit 12: Pisces</b>	4
General features and Classification up to orders (Young, 1981); Osmoregulation in Fishes	
<b>Unit 13: Amphibia</b>	4
General features and Classification up to orders (Young, 1981); Parental care	
<b>Unit 14: Reptiles</b>	4
General features and Classification up to orders (Young, 1981); Poisonous and non-poisonous snakes, Biting mechanism	
<b>Unit 15: Aves</b>	4
General features and Classification up to orders (Young, 1981); Flight adaptations in birds	
<b>Unit 17: Mammals</b>	4
Classification up to orders (Young, 1981); Hair, Horn & Antler, Nail & claw	

### Animal Diversity, ZOOG-CC1-1-P

Full Marks: 30	60 Hours	2 Credits
List of Practicals		
1. Identification with reasons of the following specimens: <i>Amoeba, Euglena, Paramecium, Sycon, Obelia, Aurelia, Metridium, Taenia solium, Ascaris lumbricoides</i> (Male and female), <i>Aphrodite, Nereis, Hirudinaria, Palaemon, Cancer, Limulus, Apis, Chiton, Dentalium, Unio, Sepia, Octopus, Echinus, Cucumaria</i> and <i>Antedon, Balanoglossus, Branchiostoma, Petromyzon, Torpedo, Labeo rohita, Exocoetus, Salamandra, Hyla, Chelone, Hemidactylus, Chamaeleon, Draco, Vipera, Naja, Bat, Funambulus</i>		
2. Key for Identification of poisonous and non-poisonous snakes		
3. Study of anatomy of digestive system, salivary gland, mouth parts of <i>Periplaneta</i> , Study of reproductive system of female cockroach		
An “animal album” containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to different sets of students for this purpose		

## PART I: SEMESTER 2.

### CORE COURSE 2.Comparative Anatomy & Developmental Biology

#### ZOOG-CC2-2-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Integumentary System</b>	4	
Derivatives of integument with respect to glands in Birds & Mammals		
<b>Unit 2: Digestive System</b>	4	
Stomach and Dentition		
<b>Unit 3: Respiratory System</b>	6	

Brief account of Gills, lungs, air sacs and swim bladder	
<b>Unit 4: Circulatory System</b>	6
Evolution of heart and aortic arches	
<b>Unit 5: Urino-genital System</b>	6
Succession of kidney, Evolution of urino-genital ducts	
<b>Unit 6: Early Embryonic Development</b>	14
Gametogenesis: Spermatogenesis and oogenesis with respect to mammals. Fertilization: Sea-Urchin; Early development of frog; structure of mature egg and its membranes, patterns of cleavage, fate map, up to formation of gastrula; types of morphogenetic movements; Fate of germ layers	
<b>Unit 7: Late Embryonic Development</b>	10
Placenta types and function; Metamorphic events in frog life cycle and its hormonal regulation	

### Comparative Anatomy & Developmental Biology Lab, ZOOG-CC2-2-P

<b>Full marks 30</b>	<b>60 hours</b>	<b>2 Credits</b>
<b>List of Practical:</b>		
1. Osteology: Limb bones, girdle and vertebra of Pigeon & Guineapig, Mammalian skulls: One herbivorous; Guinea pig and one carnivorous; Dog.		
2. Larval stages: Veliger, Nauplius, Trochophore, Mysis.		
3. Study of the different types of placenta- histological sections through photomicrographs.		
4. Developmental stages of chick embryo: 24 Hrs., 48 Hrs, 72 Hrs., 96 Hrs.		

### PART II: SEMESTER 3.

#### CORE COURSE 3. PHYSIOLOGY AND BIOCHEMISTRY

##### ZOOG-CC3-3-TH

<b>Full Marks 50</b>	<b>4 Credits</b>	<b>50 Hours</b>
<b>Unit 1: Nerve and muscle</b>		<b>8</b>
Structure of a neuron, resting membrane potential, Origin of Action potential and its propagation in myelinated and non-myelinated nerve fibres, Ultra-structure of skeletal muscle, Molecular and chemical basis of muscle contraction		
<b>Unit 2: Digestion</b>		<b>6</b>
Physiology of digestion in the alimentary canal; Absorption of carbohydrates, proteins, lipids		
<b>Unit 3: Respiration</b>		<b>6</b>
Pulmonary ventilation, Transport of Oxygen and carbon		
<b>Unit 4: Cardio-vascular system</b>		<b>6</b>



Composition of blood, Structure of Heart, Origin and conduction of the cardiac impulse, cardiac cycle	
<b>Unit 5: Excretion</b>	6
Structure of nephron, Mechanism of Urine formation; Counter-current Mechanism	
<b>Unit 6: Reproduction and Endocrine Glands</b>	10
Physiology of male reproduction: Histology of testis, hormonal control of spermatogenesis; Physiology of female, reproduction: Histology of ovary, hormonal control of menstrual cycle. Structure and function of pituitary, thyroid, pancreas and adrenal.	
<b>Unit 7: Carbohydrate Metabolism</b>	4
Glycolysis, Krebs's cycle, Glycogenesis, Electron Transport Chain.	
<b>Unit 8: Lipid metabolism</b>	
Beta oxidation of Palmitic acid {saturated (C 16:0)} and Linoleic acid {unsaturated (C 18:2)}	
<b>Unit 9: Protein Metabolism</b>	4
Transamination, Deamination, Urea cycle	
<b>Unit 10. Enzyme</b>	2
Enzyme Classification, factors affecting enzyme action, Inhibition.	

### PHYSIOLOGY AND BIOCHEMISTRY Lab; ZOOG-CC3-3-P

<b>Full Marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
1. Study of permanent histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland. 2. Study of permanent histological sections of mammalian duodenum, liver, lung, kidney. 3. Qualitative test for carbohydrate samples.		

### PART II: SEMESTER 4.

#### CORE-COURSE 4. Genetics & Evolutionary Biology

#### ZOOG-CC4-4-TH

Full Marks 50	4 Credits	50 Hours
<b>Unit 1: Mendelian Genetics and its Extension</b>	10	
Principles of Inheritance, Chromosome theory of inheritance, Incomplete dominance and co-dominance, Multiple alleles, lethal alleles, sex linked inheritance in <i>Drosophila</i> (White eye locus) & Human (Thalassemia).		
<b>Unit 2: Linkage, Crossing Over</b>	8	
Linkage and crossing over, Complete & Incomplete Linkage, Recombination frequency as a measure of linkage intensity. Holiday Model		
<b>Unit 3: Mutation</b>		

Chromosomal mutation, Deletion, duplication, inversion, translocation, aneuploidy, gene mutation, induced mutation, types & example	8
<b>Unit 4: Sex determination</b>	8
Genic Balance theory and dosage compensation in <i>Drosophila</i> .	
<b>Unit 5: Origin of Life</b>	2
Chemical Origin of life	
<b>Unit 6: Evolutionary Theories</b>	6
Lamarckism, Darwinism, Neo-Darwinism.	
<b>Unit 7: Process of Evolutionary changes</b>	4
Isolating mechanism, Natural Selection.	
<b>Unit 8: Speciation</b>	4
Sympatric, Allopatric, Parapatric	

### Genetics and Evolutionary Biology Lab ZOOG-CC4-4-P

<b>Full marks 30</b>	<b>2 Credits</b>
<b>List of Practical:</b>	
Verification of Mendelian Ratio using Chi square test. Identification of Human Aneuploidy using photo graph of karyotype. Phylogeny of horse with diagram of limb and skull. Study and identification of Darwin Finches from photographs. Visit to natural history museum and submission of report.	

## Discipline specific courses

Elective Course (Any One from DSE-A)

**Semester-5**

**DSE-A**

### Applied Zoology.ZOOG-DSE-A-5-1-TH

<b>Full Marks 50</b>	<b>Credits 4</b>	<b>50 Hours</b>
<b>Unit I: Host &amp; Parasite Relationship</b>		2
Type of Host, Types of Parasites, Other types of Relations.		
<b>Unit 2: Epidemiology of Diseases</b>		5

Transmission, Prevention and Control of Tuberculosis and Typhoid.	
<b>Unit 3: Parasitic Protozoa</b>	7
Life History and pathogenicity of <i>Entamoeba histolytica</i> , <i>Plasmodium vivax</i> and <i>Trypanosoma gambiense</i> .	
<b>Unit 4: Parasitic Helminthes</b>	8
Life History and pathogenicity of <i>Alcylostoma duodenale</i> , <i>Wuchereria bancrofti</i> .	
<b>Unit 5: Insect of Economic Importance</b>	8
Biology, Control and Damage caused by <i>Helicoverpa armigera</i> , <i>Pyrilla perpusilla</i> , <i>Sitophilus oryzae</i> and <i>Tribolium castaneum</i> .	
<b>Unit 6: Insect of Medical Importance</b>	2
Medical Importance and control of <i>Anopheles</i>	
<b>Unit 8: Animal Husbandry</b>	6
Preservation and artificial insemination in cattle; Induction of early puberty and synchronization of estrus in cattle	
<b>Unit 9: Poultry Farming</b>	6
Principles of poultry breeding, Management of breeding stock and broilers, Processing and preservation of eggs	
<b>Unit 10: Fish Technology</b>	6
Genetic improvements in aquaculture industry; Induced breeding and transportation of fish seed	

## Applied Zoology. ZOOG-DSE-A-5-1-P

<b>Full marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical:</b>		
<ol style="list-style-type: none"> <li>1. Study of <i>Plasmodium vivax</i>, <i>Entamoeba histolytica</i>, <i>Trypanosoma gambiense</i>, <i>Ancylostoma duodenale</i> and <i>Wuchereria bancrofti</i> and their life stages through permanent slides/photomicrographs or specimens.</li> <li>2. Study of arthropod vectors associated with human diseases: <i>Pediculus</i>, <i>Culex</i>, <i>Anopheles</i>, <i>Aedes</i></li> <li>3. Study of insect damage to different plant parts/stored grains through damaged products/photographs.</li> <li>4. Identifying feature and economic importance of <i>Helicoverpa</i>; <i>Heliothis armigera</i>, <i>Papilio demoleus</i>, <i>Pyrilla perpusilla</i>, <i>Callosobruchus chinensis</i>, <i>Sitophilus oryzae</i> and <i>Tribolium castaneum</i></li> <li>5. Visit to poultry farm or animal breeding centre. Submission of visit report</li> <li>6. Maintenance of freshwater aquarium(demonstration only)</li> </ol>		

# Discipline specific courses

Elective Course (Any One from DSE-A)

Semester-5

DSE-A

## AQUATIC-BIOLOGY. ZOOG-DSE-A-5-2-TH

Full Marks 50	Credits 4	Class 60
<b>Unit 1: Aquatic Bionics</b>		15
Brief introduction of the aquatic biomes: Freshwater ecosystem; lakes, wetlands, streams and rivers, estuaries, intertidal zones, oceanic pelagic zone, marine benthic zone and coral reefs.		
<b>Unit 2: Freshwater Biology lakes</b>		15
Origin and classification, Lake as an Ecosystem, Lake morphometry, Physico-chemical Characteristics: Light, Temperature, Thermal stratification, Dissolved Solids, Carbonate, Bicarbonates, Phosphates and Nitrates, Turbidity; dissolved gases; Oxygen, Carbon dioxide. Nutrient Cycles in Lakes-Nitrogen, Sulphur and Phosphorous.		
<b>Streams:</b> Different stages of stream development, Physico-chemical environment, Adaptation of hill-stream fishes.		
<b>Unit 3: Marine Biology</b>		15
Salinity and density of Sea water, Continental shelf, Adaptations of deep sea organisms, Coral reefs, Sea weeds.		
<b>Unit 4: Management of Aquatic Resources</b>		15
Causes of pollution: Agricultural, Industrial, Sewage, Thermal and Oil spills, Eutrophication, Management and conservation ;legislations, Sewage treatment Water quality assessment - BOD and COD		

## AQUATIC BIOLOGY. ZOOG-DSE-A-5-2-P

Full Marks 30	60 Hours	2 Credits
<ol style="list-style-type: none"> <li>1. Determine the area of a lake using graphimetric and gravimetric method.</li> <li>2. Identify the important macrophytes, phytoplanktons and zooplanktons present in a lake ecosystem.</li> <li>3. Determine the amount of dissolved Oxygen, and free Carbon dioxide, in water collected from a nearby lake / water body.</li> <li>4. Visit to any aquatic Ecosystem and preparation and submission of report.</li> </ol>		

**Discipline specific courses**  
**Elective Course (Any One from DSE-B)**  
**Semester-6**  
**DSE-B**

**Biology of Insect. ZOOG-DSE-B-6-1-TH**

<b>Full Marks 50</b>	<b>Credits 4</b>	<b>50 Hours</b>
<b>Unit I: Introduction to Insects</b>		<b>6</b>
General Features of Insects, Morphological features, Head, Eyes, Types of antennae, Mouth parts with respect to feeding habits		
<b>Unit II: Concept of Vectors</b>		<b>6</b>
Brief introduction of Carrier and Vectors; mechanical and biological vector, Reservoirs, Host-vector relationship, Adaptations as vectors, Host Specificity		
<b>Unit III: Insects as Vectors</b>		<b>8</b>
Classification of insects up to orders, detailed features of orders with insects as vectors - Diptera, Siphonaptera, Siphunculata, Hemiptera		
<b>Unit IV: Dipteran as Disease Vectors</b>		<b>14</b>
Dipterans, as important insect vectors - Mosquitoes, Sand fly, Houseflies; Study of mosquito-borne diseases - Dengue, Viral encephalitis, Filariasis; Control of mosquitoes.		
<b>Unit V: Siphonaptera as Disease Vectors</b>		<b>6</b>
Fleas as important insect vectors; Host-specificity, Study of Flea-borne diseases - Plague, Typhus fever; Control of fleas		
<b>Unit VI: Siphunculata as Disease Vectors</b>		<b>4</b>
Human louse; Head, Body and Pubic louse as important insect vectors; Study of louse-borne diseases -Typhus fever, Relapsing fever, Trench fever; Control of human louse		
<b>Unit VII: Hemiptera as Disease Vectors</b>		<b>6</b>
Bugs as insect vectors; Blood-sucking bugs; Chagas disease, Bed bugs as mechanical vectors, Control and prevention measures		

**Biology of Insect. ZOOG-DSE-B-6-1-P**

<b>Full marks 25</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Study of different kinds of mouth parts of insects</li> <li>2. Study of following insect vectors through permanent slides/photographs: <i>Aedes</i>, <i>Culex</i>, <i>Anopheles</i>, <i>Pediculus humanuscapitis</i>, <i>Pediculus humanuscorporis</i>, <i>Phlebotomus argentipes</i>, <i>Musca domestica</i>,</li> <li>3. Submission of a project report on any one of the insect vectors and disease transmitted by the insect.</li> </ol>		

## Ecology & Wild life Biology; ZOOG-DSE-B-6-2-TH

<b>Full Marks 50</b>	<b>Credits 4</b>	<b>Class 60</b>
<b>Unit 1: Introduction to Ecology</b>		<b>4</b>
Ecosystem, Autecology and synecology, Levels of organization, Laws of limiting factors, Study of Physical factors, The Biosphere.		
<b>Unit 2: Population</b>		<b>20</b>
Attributes of population: Life tables, fecundity tables, survivorship curves, dispersal and dispersion. Geometric, exponential and logistic growth, equation and patterns, Population regulation: density-dependent and independent factors,		
<b>Unit 3: Community</b>		<b>11</b>
Community characteristics: species diversity, abundance, dominance, richness, Vertical stratification, Ecotone and edge effect.		
<b>Unit 4: Ecosystem</b>		<b>10</b>
Types of ecosystem with an example in detail, Food chain: Detritus and grazing food chains, Linear and Y-shaped food chains, Food web, Energy flow through the ecosystem, Ecological pyramids and Ecological efficiencies		
<b>Unit 5: Wild Life</b>		<b>5</b>
Wildlife Conservation (in-situ and ex-situ conservation): Necessity for wildlife conservation; National parks & sanctuaries, Tiger conservation - Tiger reserves in India; Management challenges in Tiger reserve		

## Ecology & Wild life Biology; ZOOG-DSE-B-6-2-P

<b>Full marks 30</b>	<b>60 Hours</b>	<b>2 Credits</b>
<b>List of Practical</b>		
<ol style="list-style-type: none"> <li>1. Identification of flora, mammalian fauna, avian fauna</li> <li>2. Demonstration of basic equipment needed in wildlife studies use, care and maintenance (Compass, Binoculars, Spotting scope, Range Finders, Global Positioning System, Various types of Cameras and lenses)</li> <li>3. Familiarization and study of animal evidences in the field; Identification of animals through pug marks, hoof marks, scats, pellet groups, nest, antlers, etc.</li> <li>4. Study of an aquatic ecosystem: Phytoplankton and zooplankton, Measurement of area, temperature, salinity, determination of pH, and Dissolved Oxygen content (Winkler's method), Chemical Oxygen Demand and free CO<sub>2</sub></li> </ol>		

## Skill Enhancement Elective Courses (SEC)

### SEMESTER –3

#### SEC-A

#### APICULTURE; ZOOG-SEC-A-3-1-TH

Full Marks 80	Credits 2	30 Hours
<b>Unit 1: Biology of Bees</b>		2
Classification and Biology of Honey Bees Social Organization of Bee Colony		
<b>Unit 2: Rearing of Bees</b>		14
Artificial Bee rearing; Apiary, Beehives - Newton and Langstroth, Bee Pasturage; Selection of Bee Species for Apiculture; Bee Keeping Equipment; Methods of Extraction of Honey; Indigenous and Modern		
<b>Unit 3: Diseases and Enemies</b>		6
Bee Diseases and Enemies Control and Preventive measures		
<b>Unit 4: Bee Economy</b>		2
Products of Apiculture Industry and its Uses ;Honey, Bees Wax, Propolis, Pollen etc		
<b>Unit 5: Entrepreneurship in Apiculture</b>		6
Bee Keeping Industry - Recent Efforts, Modern Methods in employing artificial Beehives for cross		

## Skill Enhancement Elective Courses (SEC)

### SEMESTER – 4

#### AQUARIUM FISH KEEPING; ZOOG-SEC-B-4-2-TH

Full Marks 80	Credits 2	30 Hours
<b>Unit 1: Introduction to Aquarium Fish Keeping</b>		2
The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes		
<b>Unit 2: Biology of Aquarium Fishes</b>		10
Common characters and sexual dimorphism of Fresh water and Marine Aquarium fishes such as Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish and Butterfly fish		
<b>Unit 3: Food and feeding of Aquarium fishes</b>		8
Use of live fish feed organisms. Preparation and composition of formulated fish feeds		
<b>Unit 4: Fish Transportation</b>		5
Live fish transport - Fish handling, packing and forwarding techniques.		
<b>Unit 5: Maintenance of Aquarium</b>		5
General Aquarium maintenance - budget for setting up an Aquarium Fish Farm as a Cottage		

## Skill Enhancement Elective Courses (SEC)

### SEMESTER –5

#### SEC-A

##### Sericulture; ZOOG-SEC-A-5-3-TH

Full Marks 80	Credits 2	30 Hours
<b>Unit 1: Introduction</b>		6
Sericulture: Definition, history and present status; Silk route; Types of silkworms, Distribution and Races Exotic and indigenous races Mulberry and non-mulberry Sericulture		
<b>Unit 2: Biology of Silkworm</b>		4
Life cycle of <i>Bombyx mori</i> ; Structure of silk gland and secretion of silk		
<b>Unit 3: Rearing of Silkworms</b>		10
Selection of mulberry variety and establishment of mulberry garden Rearing house and rearing appliances Disinfectants: Formalin, bleaching powder, RKO Silkworm rearing technology: Early age and Late age rearing Types of mountages; Spinning and harvesting and storage of cocoons.		
<b>Unit 4: Pests and Diseases</b>		7
Pests of silkworm: Uzi fly, dermestid beetles and vertebrates Pathogenesis of silkworm diseases: Protozoan, viral, fungal and bacterial Control and prevention of pests and diseases		
<b>Unit 5: Entrepreneurship in Sericulture</b>		3
Prospectus of Sericulture in India: Sericulture industry in different states, employment, potential in mulberry and non-mulberry sericulture. Visit to various sericulture centres.		

## Skill Enhancement Elective Courses (SEC)

### SEMESTER –6

#### SEC-B

##### Medical diagnosis; ZOOG-SEC-B-6-4-TH

Full Marks 80	Credits 2	Class 30
<b>Unit 1: Diagnostics Methods Used for Analysis of Blood</b>		8
Blood composition, Preparation of blood smear and Differential Leucocyte Count (D.L.C) using Leishman's stain, Platelet count using haemocytometer, Erythrocyte Sedimentation Rate (E.S.R)		
<b>Unit 2: Diagnostic Methods Used for Urine Analysis</b>		4
Urine Analysis: Physical characteristics; Abnormal constituents, Urine culture		
<b>Unit 3: Non-infectious Diseases</b>		6
Causes, types, symptoms, complications, diagnosis and prevention of Diabetes (Type I and Type II), Hypertension (Primary and secondary), Testing of blood glucose using Glucometer/Kit		
<b>Unit 4: Infectious Diseases</b>		3
Causes, types, symptoms, diagnosis and prevention of Tuberculosis and Hepatitis, Malarial parasite		



(Microscope based and ELISA based)	
<b>Unit 5: Clinical Biochemistry</b>	1
Lipid profiling, Liver function test. PSA test	
<b>Unit 6: Clinical Microbiology</b>	1
Antibiotic Sensitivity Test	
<b>Unit 8: Tumours</b>	2
Types (Benign/Malignant), Detection and metastasis; Medical imaging: X-Ray of Bone fracture,	
<b>Unit 9: Visit to Pathological Laboratory and Submission of Project</b>	5

---

## REFERENCE BOOKS

### Non Chordata

- Anderson DT (Ed.) 2001. Invertebrate Zoology. 2nd Ed. Oxford University Press.
- Barnes R. S. K. - The Diversity of Living Organisms; Blackwell Science
- Barrington EJW. 1981. Invertebrate Structure and function. 2nd Ed. ELBS & Nelson.
- Bernays, E. A., & Chapman, R. F., Host Selection by Phytophagous insects, Chapman & Hall
- Blackwelder RE. 1967. Taxonomy- A text and reference book. John Wiley & Sons.
- Brusca RC, Brusca GJ. 2002. Invertebrates. 4th Ed. Sinauer Associates
- Chaki K C; Kundu G & Sarkar S. - Introduction to General Zoology (Vol. 1), NCBA, Kolkata
- Hyman LH. 1951. The Invertebrates (Vol-I). Mc.Graw Hill Book Company.
- Jordan EL, Verma PS. 2006. Invertebrate Zoology. S. Chand & Co. New Delhi.
- Kapoor VC. 2008. Theory and practice of animal taxonomy. 6th Ed. Oxford & IBH Pub
- Kotpal RL. 1988 – 1992. Protozoa, Porifera, Coelenterata, Annelida, Arthropoda, Mollusca, Echinodermata,
- Mayr E, Ashlock PD. 1991. Principles of Systematic Zoology. 2nd Ed., McGraw-Hill.
- Mayr E. Principle of Systematic Zoology (TATA McGraw Hill)
- Meglitsch PA, Schram FR. 1991. Invertebrate Zoology. Oxford University Press.
- Moore J. - An introduction to the Invertebrates; Cambridge Univ. Pr.
- Nigam H.C. - Biology of non-chordates; Vishal Pub.
- Parker TJ, Haswell W. 1972. Text Book of Zoology, Volume I. Macmillan Press, London.
- Pechenik JA. 1998. Biology of the Invertebrates, 4th Ed. McGraw Hill.
- Rupert E E, Barnes R D. 2006. Invertebrate Zoology, VIII Ed. (Harcourt Asia)
- Ruppert E E, Fox R, Barnes R D. 2003. Invertebrate Zoology: a Functional Evolutionary Approach. (Brooks Cole)
- Ruppert EE, Fox R, Barnes RD. (1991). Invertebrate Zoology: a Functional Evolutionary Approach. Brooks Cole.
- Simpson G. G. - Principles of Animal Taxonomy (Oxford IBH)
- Sinha AK, Adhikari S, Ganguly BB. Biology of Animals. Vol. I. NCBA
- Villee, C. A., W. F. Walker and R. D. Barnes - General Zoology; Saunders College Pub.
- Wilmer P. - Invertebrate inter relationship; Cambridge Univ. Pr.
- Wood R. - Reef evolution; Oxford Univ. Pr

### Chordata, Comparative Anatomy

- Arora MP. *Chordata I. Himalaya Pub Hous*
- Chaki K C; Kundu G & Sarkar S. - Introduction to General Zoology (Vol. 2), NCBA, Kolkata
- Hilderbrand M, Gaslow GE. Analysis of Vertebrate Structure, John Wiley and Sons
- Jordan EL, Verma PS. 2003. Chordate Zoology. S.Chand & Company Ltd. New Delhi.
- Kardong K V. 2005. Comparative Anatomy of Vertebrates, Function and Evolution; McGraw-Hill
- Kardong KV. 2002. Vertebrates: Comparative anatomy, function evolution. Tata McGraw Hill.
- Kent GC, Carr RK. 2001. Comparative anatomy of the Vertebrates. 9<sup>th</sup> Ed. Mc Graw Hill.

Marieb, E. ;1998. Human Anatomy and Physiology, IV Edition, Addison-Wesley.  
 Norman, J.R. A history of Fishes, Hill and Wang Publishers  
 Parker TJ, Haswell W. 1972. Text Book of Zoology, Volume II: Marshall and Willam Eds. Macmillan Pr.  
 Pough H, Christine MJ, Hauser B. 2002. Vertebrate life, VIII Edition, Pearson Internatl.  
 Romer AS, Parsons TS. 1986. The vertebrate body. 6th Ed. Saunders College Publishing  
 Sinha KS, Adhikari S, Ganguly BB. 2001. Biology of Animals. Vol. II. NCBA  
 Young JZ. 2004. The Life of Vertebrates. III Edition. Oxford University press

## **Molecular Biology**

Alberts B et al. 2008. Molecular Biology of the Cell. V Edition, Garland publishing Inc.  
 Allison LA. 2007. Fundamental Molecular Biology. Blackwell Publishing. W.H. Freeman  
 Bergstorm CT, Dujatkin LA. 2012. Evolution. 1st Edn. W.W. Norton and Co.  
 Karp G. 2008. Cell and Molecular biology: Concepts and Application. 5th Edn, John Wiley.  
 Lackie JM. 2013. Dictionary of Molecular Biology. Academic Press.  
 Lodish, B, Matsudaira, K B, Plough, A and Martin ;2016. Molecular Cell Biology. W.H. Freeman  
 Meyers R.A. – Molecular Biology and Biotechnology; VCH Pub.  
 Pal A. 2011. Textbook of Cell and Molecular Biology 3rd Edn, Books and Allied, Kolkata.  
 Russel PJ. 2010. iGenetics: A Molecular Approach, Pearson Benjamin  
 Strachan T. & A. Read – Human Molecular Genetics; BIOS Scientific  
 Turner, McLennan, Bales & White ;2005. Instant Notes in Molecular Biology. Taylor Francis  
 Twyman – Advanced Molecular Biology; Springer  
 Watson D et al. 2008. Molecular Biology of the Gene, VI Edition, Cold Spring Harbor Lab. Press  
 Watson J. D. – Molecular Biology of the gene; Pearson

## **Cell Biology, Genetics, Histology**

Banerjee P. K. – Problems on Genetics, Molecular Genetics and evolutionary genetics; NCBS  
 Becker W. M., L. J. Kleinsmith, J. Hardin – The World of Cell  
 Cohen N. – Cell Structure, Function and Metabolism; Hodder & Stoughton  
 Cooper G M – Cell Biology; Sinauer  
 Cooper G M, Hausman RE. 2009. The Cell: A Molecular Approach. V Ed. ASM Press and Sunderland  
 Cormack DH. 2003. PDQ Histology. B.C. Decker Ins., London.  
 Elrod S. and W. Stansfield – Genetics; Schaum  
 Eroschenko VP. 2008. Atlas of Histology with Functional correlations. Lippincott & Wilkins.  
 Gillespie J H. 1998. Population Genetics: a Concise Guide. John Hopkins Univ Press.  
 Hardin J, Bertoni G, Kleinsmith JL. 2012. Becker's World of the Cell, Pearson Benjamin Cummings.  
 Harvey L. 2004. Molecular Cell Biology. 5th Edn. W.H. Freeman  
 Hutchison C. & D.M. Glover – Cell cycle control; IRL Oxford Univ.  
 Junquera LC, Carneiro J. 2005. Basic histology text and atlas  
 Klug W S, Cummings MR, Spencer CA. 2012. Concepts of Genetics. Xth Ed. Benjamin Cummings  
 Lewin B. 2008. Gene IX. Jones and Bartlett.  
 Masters J R W – Animal Cell Culture – a practical approach; Oxford Univ. Pr.  
 Morgan S. J. & D. C. Darling – Animal cell culture; Oxford  
 Plopper G D, Sharp, Siroski, E (2015) Lewin's Cell 3rd Edition—Johns & Bartlett Publishers  
 Pollard MD, Earnshaw W C, Lippincott-Schwartz. 2007. Cell Biology. 2nd Edn Saunders. Press  
 Robert A. – Biology of Cancer Weinberg. 2<sup>nd</sup> edition  
 Ross M H, Pawlina W. 2010. Histology: A Text and Atlas. Lippincott Williams and Wilkins  
 Roychoudhuri S – A Text Book of Genetics & Molecular Biology; NCBA  
 Snustad D P, Simmons MJ. 2009. Principles of Genetics. V Edition. John Wiley and Sons Inc  
 Strickberger M. W – Genetics; Macmillan  
 Tamarin R. H. – Principles of Genetics; McGraw Hill  
 Weinberg R A. 2014. Biology of Cancer. 2<sup>nd</sup> edition. Garland Science, Taylor & Francis  
 Winter P. C., G. I. Hickey & H. L. Fletcher – Genetics; Viva

## **Animal Physiology, Nutrition**

- Bamji M S, Rao N P, and Reddy V. Text Book of Human Nutrition; 2009; Oxford & IBH Publishing
- Fox S I. 2011. Human Physiology. 12th Edn. Mc Graw Hill
- Ganong's Review of Medical Physiology; McGraw Hill
- Gibney et al. Public Health Nutrition; 2004; Blackwell Publishing
- Gunstream SE. 2010. Anatomy and Physiology with integrated study guide. Mc Graw Hill.
- Guyton AC, Hall JE. 2006. Textbook of Medical Physiology. Hercourt Asia P Ltd.
- Guyton, A.C. and Hall, J.E.; 2011. Textbook of Medical Physiology, XII Edition, Saunders Company
- Hall JE. 2015. Guyton and Hall Textbook of Medical Physiology. Saunders publication.
- Hill RW, Wyse GA, Anderson M. 2012. Animal Physiology. 3rd Edn. Sineuer Asso
- Hoar W. S. – General and Comparative Physiology; PHI
- Kesar, S. and Vashisht, N.; 2007. Experimental Physiology, Heritage Publishers.
- Lakra P, Singh MD. Textbook of Nutrition and Health; First Ed; 2008; Academic Excellence.
- Manay MS, Shadaksharaswamy. Food-Facts and Principles; 1998; New Age International. P Ltd.
- McCue, D.–Comparative Physiology of Fasting, Starvation, and Food Limitation; Springer
- Metzler DE. 2001. The chemical reactions of living cells – Academic Press.
- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; 5<sup>th</sup> Ed; New Age International Publishers
- Prosser C. L. and F. A. Brown – Comparative Animal Physiology; Saunders
- Randall D , Burggren W. 2001. Eckert Animal Physiology by. 4th edition. W. H. Freeman.
- Refinetti R. 2000. Circadian Physiology. CRC Press, Boca Raton.
- Schmidt-Neilson K – Animal Physiology – Adaptation & Environment, Cambridge University Pr
- Sembulingam K, Sembulingam P. 2012. Essentials of Medical Physiology. Jaypee Pub, New Delhi
- Sherwood L. 2013. Human Physiology from cells to systems. 8th Edn., Brooks & Cole
- Srilakshmi B. Nutrition Science; 2002; New Age International ;P Ltd.
- Swaminathan M. Handbook of Foods and Nutrition; Fifth Ed; 1986; BAPPCO.
- Tortora, G.J. and Derrickson, B.H.; 2009. Principles of Anatomy and Physiology, XII Ed, Wiley and Sons, Inc.
- Vander A, Sherman J, Luciano D. 2014. Vander's Human Physiology: The Mechanism of Body Function. XIII Edn. McGraw Hills
- Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill.
- Widmaier, E.P., Raff, H. and Strang, K.T. ;2008. Vander's Human Physiology, XI Edition, McGraw Hill

## **Biochemistry**

- Berg J. & G. Tomaselli – A Clinical Companion to Accompany Biochemistry –; Freeman & Co
- Berg JM, Tymoczko JL, Stryer L. 2007. Biochemistry, VI Edition, W.H. Freeman and Co., New York.
- Campbell MK, Farrell SO. 2012. Biochemistry. 7th Edn. Brooks and Cole.
- Chatterjee MN, Shinde R. 2012. A Textbook of Medical Biochemistry. 8th Edn. Jaypee
- Conn E. E. & P. K. Stumpf – Outlines of Biochemistry –(Wiley Eastern
- Cox MM, Nelson DL. 2008. Lehninger's Principles of Biochemistry, W.H. Freeman & Co., NY
- Das D. 2000. Biochemistry. NCBA, Kolkata
- Deb A. C. – Fundamentals of Biochemistry; NCBA
- Hames BD, Hooper NM. 2000. Instant Notes in Biochemistry, II Edition, BIOS Scientific
- Harper's Illustrated Biochemistry; McGraw Hill
- Jain JL, Jain N, Jain S. 1979. Fundamentals of Biochemistry. S. Chand Pub. N. Delhi
- Lehninger Principle of Biochemistry – D. L. Nelson & M. M. Cox; Maxmillan
- Maheswari N. 2008. Clinical Biochemistry. Jaypee Pub., New Delhi
- Murray RK et al. 2009. Harper's Illustrated Biochemistry, 28<sup>th</sup> Edition, McGraw- Hill Co.
- Nelson D. L. & M. M. Cox Lehninger Principle of Biochemistry – Maxmillan
- Saltsman K., J. Berg & G. Tomaselli – A clinical companion to accompany biochemistry – Freeman
- Sathyanarayana U, Chakrapani. 2002. Biochemistry –Books & Allied ;P Ltd, Kolkata
- Voet D, Voet JG. 2004. Biochemistry –3rd edition, 2004, John Wiley & Sons, Inc.

Zubay GL. 1998. Biochemistry, 4th edition, Mc Graw-Hill.

### **Economic Zoology: Apiculture, Sericulture**

- Bisht D.S., Apiculture, ICAR Publication.  
Chaudhuri S. 2017. Economic Zoology. Kolkata: New Central Book Agency ;PLtd.  
Chun and Chen Da-Chung ;1988 Silkworm Rearing; Pub. By FAO, Rome.  
Cramp D. 2012. The Complete Step by Step Book of Beekeeping. Anness Publishing.  
Econ Handbook of Silkworm Rearing: Agriculture and Technical Manual-1, Fuzi Pub. Co. Ltd.,  
Jolly, M. S: Appropriate Sericultural Techniques  
Krishnaswamy, Improved Method of Rearing Young age silkworm; 1986 S., Bangalore  
Mathews G. 2011. Integrated Vector Management: Controlling Vectors of Malaria and Other Insect Vector Borne Diseases. Wiley-Blackwell  
Narasimhanna MN. 1988. Manual of Silkworm Egg Production;, CSB, Bangalore.  
Prost PJ. 1962. Apiculture. Oxford and IBH, New Delhi.  
Rangaswami G. 1976. Manual on Sericulture; Food and Agriculture Organisation, Rome  
Sarkar S; Kundu G & Chaki K C - Introduction to Economic Zoology; NCBA, Kolkata  
Sengupta, K, ;1989 A Guide for Bivoltine Sericulture  
Singh S. Beekeeping in India, Indian council of Agricultural Research, New Delhi.  
Ullal SR, Narasimhanna MN. Handbook of Practical Sericulture: CSB, Bangalore

### **Economic Zoology: Fish & Fisheries, Aquarium Fisheries**

- Bone Q and R Moore, Biology of Fishes, Talyor and Francis Group, CRC Press, U.K.  
Chaudhuri. S, 2017: Economic Zoology, NCBS  
Evans D. H. and J. D. Claiborne, The Physiology of Fishes, Taylor and Francis Group, CRC Press, UK  
Khanna S.S. and H.R. Singh, A text book of Fish Biology and Fisheries, Narendra Publishing House  
Nelson JS. 2006. Fishes of the World, 4th Edn. Wiley.  
Srivastava, C.B.L. Fish Biology, Narendra Publishing House  
von der Emde, R.J. Mogdans and B.G. Kapoor. The Senses of Fish: Adaptations for the Reception of Natural Stimuli, Springer, Netherlands

### **Immunology**

- Abbas K A, Lechtman H Andrew. 2003. Cellular and Molecular Immunology. Saunders Publication.  
Abbas KA, Andrew, LH. 2011. Basic Immunology: Functions and Disorders of Immune System. Saunders Elsevier  
Delves PJ, Martin SJ, Burton DR, Roitt I M. 2006. Roitt's Essential Immunology. Blackwell Pub.  
Kindt TJ, Goldsby RA, Osborne BA, Kuby J 2006. Immunology, W.H. Freeman and Company.  
Mohanty SK , Leela KS. 2014. Text book of Immunology. 2nd Edn. Jaypee Pub. N. Delhi  
Parija SC. 2012. Text book of Microbiology and Immunology. Elsevier.  
Playfair, JHL, Chain BM 2001. Immunology at a glance. 7 th Edn. Blackwell Pub.  
Reed JC, Green DR. 2011. Apoptosis: Physiology and Pathology. Cambridge University.  
Shetty N. 2005. Immunology: Introductory Textbook, New Age International Pub.  
Virella G. 2007. Medical Immunology, Informa Healthcare.

### **Ecology, Wild life, conservation**

- Begon M, Harper J L, Townsend CR. 2006. Ecology: Individuals, Populations & communities. 4th Ed. Blackwell sc.  
Bookhout TA. 1996. Research & Management Techniques for Wildlife & Habitats, WLS, Allen  
Cain M L, Bowman W D and Hacker S D. 2013. Ecology. 3rd ed. Sinauer associates.  
Caughley G, Sinclair ARE. 1994. Wildlife Ecology and Management. Blackwell Science.  
Chapman RL, Reiss MJ. 2000. Ecology - Principles & Application. Cambridge University Press.  
Colinvaux P. 1993. Ecology 2. John Wiley & Sons, Inc. New York.  
Faurie C, Ferra C, Medori P, Devaux J. 2001. Ecology-Science and Practice. Oxford & IBH Pub. Company.  
Ghosh, A., S. P. Agarwala & B. Sau Loss of biodiversity and its ethical implications – Sadesh

Hunter ML, Gibbs JB, Sterling EJ. 2008. Problem-Solving in Conservation Biology and Wildlife Management: Exercises for Class, Field, and Laboratory. Blackwell Publishing

Hunter, M. L., J. James & P. Gibbs – Fundamentals of Conservation Biology – John Willey & Sons

Kormondy EJ. 2002. Concepts of Ecology. 4th Indian Reprint, Pearson Education.

Krebs CJ. 2016. Ecology: The Experimental Analysis of Distribution and Abundance. Pearson India Edcn Ltd.

Mackenzie, A, A. S. Ball & S. R. Virdee – Ecology – (Viva)

Majupuria T. C. – Wildlife of India – Techpress, Bangkok

Molles Jr. MC. 2005. Ecology: Concepts and Applications. 3rd Ed. McGraw- Hill.

Mukherjee A. K. – Endangered animals of India – Z.S.I

New T. R. – Invertebrate Surveys for Conservation – Oxford Univ. Pr.

Odum EP, Barret GW. 2017. Fundamentals of Ecology. 15th Indian reprint. Cengage learning India Pltd.

Odum EP. 2008. Fundamentals of Ecology. Brooks/Cole

Ricklefs RE, Miller, GL. 2000. Ecology. 4th Ed. W. H. Freeman & Company.

Russel PJ, Wolfe LS, Hertz PE, Starr C, McMillan B. 2008. Ecology.

Saha G. K. & S. Majumdar – Threatened Mammals of India – Daya Publication House

Saha GK, Mazumdar S. 2017. Wildlife Biology : an Indian Perspective, PHI Learning,

Saharia VB. 1998. Wildlife in India. Nataraj Publishers.

Smith TM, Smith R L. 2006. Elements of Ecology. 6th Ed. Pearson Education.

Sodhi NS, Ehlich PR. 2010. Conservation Biology for All. Oxford University Press.

Stiling P. 2009. Ecology- Theories and Applications. 4th Ed. Prentice Hall of India.

Sutherland WJ. 2000. The Conservation Handbook: Research, Management & Policy. Blackwell Sc

Townsend, C.; J. L. Harper, M. Bagon – Essentials of Ecology

Van Dyke F. 2008. Conservation Biology: Foundations, Concepts, Application. 2nd Ed. Springer Science

Wild life (Protection) Act 1972 – Wild life Society of India (Nataraj Publication)

Wilson, E. O. – Biodiversity – National Academic Press

Woodroffe R., Thirgood S, Rabinowitz A. 2005. People and Wildlife, Conflict or Co-existence? Cambridge Univ. Pr

### **Environmental biology**

Agarwal MP. Solar energy. S Chand and Co. Ltd.

Boyle G. 2004. Renewable Energy, Power for a sustainable future. Oxford University Press

Cutter, S.L., Environmental Risk and Hazards, Prentice-Hall of India Pvt. Ltd., New Delhi, 1999.

Freedman B. 1989. Environmental Ecology. Academic press, Inc.

Jayakumar P. 2009. Solar Energy: Resource Assessment Handbook.

Joseph F L & B D Louver - Health and Environmental Risk Analysis fundamentals with applications, Prentice Hall, New Jersey 1997.

Kasperson, J.X. , Kasperson, R.E. and Kasperson, R.E., Global Environmental Risks, V.N. Univ Pr, New York, 2003.

Kofi Asante Duah “Risk Assessment in Environmental management”, John Wiley and sons, Singapore, 1998.

Kolluru R, Bartell S, Pitblado R, Risk Assessment and Management Handbook, McGrawHill Inc., New York, 1996.

Park – Environmental Biology

Saha G. K. – Wetland: Crisis and options; (Astral)

Walker, C. H., S. P. Hopkin, R. M. Sibley & D. B. Peakall Principles of Ecotoxicology; Taylor & Francis

Rai GD. 2004. Non-conventional energy sources. Khanna Publishers, New Delhi

Miller T, Spoolma SE. 2013. Environmental Science. Delhi: Cengage learning India Private limited.

### **Parasitology**

Ahmed N, Dawson M, Smith C, Wood Ed. 2007. Biology of Disease. Taylor and Francis Group.

Arora D R, Arora B. 2001. Medical Parasitology. II Edition. CBS Publications and Distributors

Bogitsch B J, Carter CE, Oeltmann TN. 2013. Human Parasitology. 4th Edn. Elsevier.

Bose M. 2017. Parasitoses and zoonoses. New Central Book Agency.

Chakraborty P. 2016.. Textbook of Medical parasitology, 3rd edition. New Central Book Agency.

Chatterjee K D. 2009. Parasitology: Protozoology and Helminthology. XIII Edition, CBS Publishers

Dailey MD. 1996. Meyer, Olsen & Schmidt's Essentials of Parasitology. W.C. Brown Publishers

Gunn A, Pitt SJ. 2012. Parasitology: an Integrated Approach. Wiley Blackwell.

John DT, Petri WA. 2006. Markell and Voge's Medical Parasitology. Elsevier.  
 Marr JJ, Nilsen TW, Komuniecki RW. 2003. Molecular Medical Parasitology. 2<sup>nd</sup> Edn. Academic Press.  
 Muller R, Wakelin D. 2002. Worms and Human Disease. CAB International Publication.  
 Noble ER, Noble GA. 1982. Parasitology: The biology of animal parasites. Lea & Febiger  
 Paniker CKJ, Ghosh S. [Ed]; 2013. Paniker's Text Book of Medical Parasitology. Jaypee  
 Parija SC. 2013. Textbook of medical parasitology, protozoology & helminthology II Edition, All India Publishers and Distributors, Medical Books Publishers, Chennai, Delhi.  
 Prakash, G.; 2012. Lab Manual on Blood Analysis and Medical Diagnostics, S. Chand and Co Ltd.

### **Vector & Biology of Insect**

Chandra G. 2000. Mosquito. Sribhumi Publication Co. Kolkata  
 Chapman RF. 1998. The Insects: Structure and Function. IV Edition, Cambridge University Press  
 Klowden, M. J., Physiological system in Insects, Academic Press, USA  
 Gullan, P. J. and Cranston, P. S., The Insects, An outline of Entomology, Wiley Blackwell, UK  
 Hati A. K., Medical Entomology, Allied Book Agency, 2010  
 IMM's AD. 1977. A General Text Book of Entomology. Chapman & Hall, UK  
 Nation, J. L., Insect Physiology and Biochemistry, CRC Press, USA  
 Pedigo LP. 2002. Entomology and Pest Management. Prentice Hall Publication  
 Saunders DS. 2002. Insect Clocks. Elsevier Science.  
 Snodgrass, R. E., Principles of Insect Morphology, Cornell Univ. Press, USA  
 Wilson, E. O., The Insect Societies, Harvard Univ. Press, UK  
 Borror, D. J., Triplehorn, C. A., and Johnson, N. F. Introduction to the study of insects, Saunders Pub

### **Endocrinology**

Fox T, Brooks A, Baidya B. 2015. Endocrinology. JP Medical, London.  
 Gardner DG, Shoback D. 2011. Greenspan's Basic and Clinical Endocrinology. McGraw Hill Lange.  
 Goodendocr man HM. 2000. Basic Medical Endocrinology. Academic Press.  
 Jameson JL. 2010. Harrison's Endocrinology. McGraw Hill  
 Melmed S, Conn PM. 2005. Endocrinology: Basic and Clinical Principles. Humana Press.  
 Melmed S, Polonsky K, Larsen PR, Kronenberg H. 2016. William's Text Book of Endocrinology. Elsevier.  
 Molina PE. 2013. Endocrine Physiology. McGraw Hill Lange.  
 Neal JM. 2000. Basic Endocrinology; an Interactive Approach. Blackwell Science.  
 Norris DO. 2007. Vertebrate Endocrinology. 4th Edn. Elsevier Academic Press  
 Strauss JF, Barbieri RL. 2014. Yen & Jaffe's Reproductive Endocrinology. Elsevier Sounders

### **Reproductive, Developmental Biology**

Carlson BM. 2014. Human Embryology and Developmental Biology. 5th Edn. Elsevier..  
 Das N. 2012. Fundamental Concept of Developmental Biology. New Central Book Agency  
 Dudek RW, Fix JD. 2013. BRS Embryology. 3rd Edn. Lippincott Williams Wilkins  
 Gardner DK. 2006. In Vitro Fertilization: a Practical Approach. CRC Press.  
 Gilbert S.F. 2010. Developmental Biology, IX Edition, Sinauer Associates, Inc., Publishers,  
 Schoenwolf GC, Bleyl SB, Brauer PR, Francis-West PH. 2009. Ladens's Human Embryology. Elsevier  
 Slack JMW. 2012. Essential Developmental Biology. Wiley-Blackwell.  
 Wolpert L. 2002. Principles of Development. 2nd Edn. Oxford Univ. Press.

### **Evolutionary Biology**

Barton NH, Birggs DEG, Elsen JA, Goldstein DB, Patel NH. 2007. Evolution. CSHL Press  
 Chattopadhyay S. 2012. Life: Evolution, Adaptation, Ethology. 3rd Edn. Books and Allied, Kolkata.  
 Darlington PJ. The Geographical Distribution of Animals, R.E. Krieger Pub Co  
 Dobzhansky T, Ayala FJ, Stebbins JL, Valentine JW. 1977. Evolution. Surajeet Pub., N.Delhi  
 Freeman S, Herron JC. 2016. Evolutionary Analysis. Pearson Education Limited, Noida, India.  
 Futuyma DJ. 1997. Evolutionary Biology. Sinauer Associates.

Hall BK, Hallgrímsson B. 2008. Strickberger's Evolution. IV Edition. Jones and Bartlett Publishers Inc  
 Kardong K. 2004. An Introduction to Biological Evolution. McGraw Hill.  
 Page RDM, Holmes EC. 1998. Molecular Evolution: A Phylogenetic Approach. Blackwell Sc  
 Rauchfuss H. 2010. Chemical Evolution and the Origin of Life. Springer.  
 Ridley M. 1996. Evolution. 2nd Edn. Blackwell Science.  
 Smith JM. 1998. Evolutionary Genetics. 2nd Edn. Oxford Univ Press.  
 Volpe EP, Rossenbaum PA. 1999. Evolution. McGraw Hill.

### **Animal Biotechnology & Animal Cell Biotechnology**

Atlas R. M. and R. Bartha – Microbial Ecology : Fundamentals and Applications  
 Thieman W.J. and M.A. Palladino – Introduction to Biotechnology; Pearson

### **Animal Behaviour & Chronology**

Alcock J. 2013. Animal Behaviour, Sinauer Associate Inc., USA.  
 Drickamer LC, Vessey SH. 2001. Animal Behaviour. McGraw-Hill  
 Dujatkin LA. 2014. Principles of Animal Behaviour. 3rd Edn. W.W.Norton and Co.  
 Dunlap JC, Loros JJ, DeCoursey PJ. 2004. Chronobiology Biological Timekeeping. Sinauer Assoc.  
 Krebs J. R. & N. B. Davies – An introduction to Behavioural Ecology – Blackwell Scientific  
 Kumar V. 2002. Biological Rhythms. Narosa Publishing House, New Delhi.  
 Mandal F. 2010. A Text Book of Animal Behaviour. Pentice Hall India.  
 Mathur R. 2005. Animal Behaviour. Rastogi Pub.  
 Ruhela A, Sinha M. 2010. Recent Trends in Animal Behaviour. Oxford Book Co.  
 Sherman PW, Alcock J. 2013. Exploring Animal Behaviour, Sinauer Assoc Inc., Massachusetts, USA.

### **Practical**

Chatterjee A K, Chakraborty C. – Practical Zoology. (Nirmala Library)  
 Ghosh K C, Manna B. – Practical Zoology (NCBA)  
 Gunasegaran JP. 2010. A Text book of Histology and a Practical Guide. Elsevier  
 Sinha J K, Chatterjee A K. and Chattopadhyay P. – Advanced Practical Zoology (New Central Book Agency)  
 Poddar T, Mukhopadhyay S, Das S K. An advanced Laboratory Manual of Zoology (Trinity Press)