2015

BOTANY – HONOURS — PRACTICAL

Fourth Paper

Group – B

Full Marks – 50

Distribution of Marks

1. Specimen "A" : Work out and temporary unstained preparation – 2, Drawing and labelling – 3, Description – 2½, Name the genus – ½. 8

2. Specimen "B" : Dissection – 1, Drawing and labelling – 3, Description – 3, Floral formula – 1, Floral Diagram – 1, Family identification – 1, (Diagnostic characters underline in description – ½, Name of family – ½), Genus identification – 2 (Identification characters with the help of key – 1½, Name the genus – ½). 12

3. Specimens "C", "D", "E" and "F" : Family name – ½, Generic name – ½ and Specific epithet – ½ (no credit be given for the specific epithet being correct, if the genus is written wrong.) 1½×4

4. Specimens "G", "H", "I" and "J" : Reasons – 1, Identification – 1. 8

5. Laboratory Records : Laboratory Note Books – 4 [no credit be given for the Laboratory Note Book(s) having no signatures of the concerned teacher(s)], Slides – 1. 5

6. Field Records : Field Note Books – 3 (2 on excursions and 1 on ecological studies) (no credit be given for the Field Note Books having no signatures of the concerned teacher(s)), Herbarium Specimens – 3 (Properly mounted, labelled and correctly identified). 6

7. Viva voce – 5 (five questions to be asked covering all branches as per syllabus, of which one from ecological studies; non-academic questions are strictly prohibited). 5

2016

BOTANY — HONOURS —PRACTICAL

Eighth Paper

Full Marks – 100

INSTRUCTIONS TO THE EXAMINERS

1. Specimen A – Pretreated and fixed root tips of *Allium cepa, Aloevera Lens culinasis* to be supplied, two specimens (out of three) to be given alternatively. Specimens to be supplied in Orcein : (N) Hcl (9 : 1) mixture and to be heated by the candidate. 20

Distribution of Marks — Preparation of slide — 4 [Squashing – 2, Staining – 1, Sealing – 1], Drawing to be endorsed – 5, Somatic chromosome number – 1, Comment of chromosome type – 5, Drawing under drawing prism – 5.

2. Specimen B – Fresh or Fixed flower buds of *Allium cepa* to be supplied. 10

Distribution of Marks — Preparation of slide – 4 [Smearing – 2, staining – 1, sealing – 1] Drawing to be endorsed – 3, Naming of the stage with reasons – 1+2.

3. Specimen C — Seed samples of one type of seeds of contrasting characters [should have 3 : 1, 1 : 1, 9 : 7, 13 : 3, 15 : 1, 9 : 3 : 3 : 1, 1 : 1 : 1 : 1 ratios] to be supplied. Sample size of total seeds should not be less than 50 and minimum seed number in a phenotypic class should not less than 5. 13

Distribution of Marks — Determination of segregation ratio – 3, Determination of Goodness of fit – 6, Comment on nature of segregation pattern – 4.

4. Specimen D – Pure culture of *Bacillus / Micrococcus / Staphylococcus* as Gram +ve and *E.coli / Pseudomonas* as Gram –ve. Only one specimen to be given to each batch. 12

Distribution of Marks – Preparation of slide – 4 [Smear – 1, Staining – 3], Procedure of staining – 3, Drawing – 2, Labelling – 1, Comment – 2 [Morphology – 1, Gram nature – 1]

5. Either experiment I or II to be given for each batch.

I – Diseased leaf, sterile slaint and other necessary items to be supplied.

II – Pure fungal culture, Fruits (brinjal/Cucumber) and other necessary items to be supplied. 10

Distribution of Marks – Requisition – 3, Procedure – 4, Demonstration – 3.

2017

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Eighth Paper

Full Marks – 100

The figures in the margin indicate full marks

Module – XV and XVI

1. *(a)* Make a suitable stained squash preparation of specimen 'A'. Draw a metaphase plate under oil high power objective. Determine the chromosome number. Comment on the types of chromosome present. Leave your preparation. 4+5+1+5

(b) Draw the metaphase plate using a drawing prism from the supplied slide under oil immersion objective. 5

2. Make a suitable stained smear preparation of specimen 'B'. Draw any one meiotic divisional stage (diplotene to telophase II excluding diad stage) under high power objective. Identify the stage with reasons. Leave your preparation. 4+3+3

3. Determine the segregation ratio of specimen 'C' and test the Goodness of fit by chi-square method. Comment on the nature of segregation. 3+6+4

4. Make a Gram stained preparation of specimen 'D'. Write down the staining procedure. Draw label and comment on the morphology and Gram nature of the specimen. Leave your preparation. 4+4+2+2

5. Write down the requirements and procedure in a separate sheet and demonstrate the asceptic techniques as per given (I/II).

I. The isolation of pathogen from diseased leaf

II. The inoculation of fruit. 3+4+3

6. Identify with reasons — Specimen 'E', 'F', 'G', 'H', 'I' and 'J'. $2\frac{1}{2} \times 6$

7. Laboratory Notebooks and Slides. 8+2

8. Viva voce. 10