

**DR. KANAILAL BHATTACHARYYA COLLEGE**

**INTERNAL ASSESSMENT – 2021**

**SEM - V**

**BOTANY – HONOURS**

**PAPER - DSE-B (PLANT BIOTECHNOLOGY)**

**Time: 1Hr**

**F.M – 25**

**1. Answer the followings in brief**

**2X10**

- (a) What do you mean by cellular totipotency? Give an example.
- (b) What is protoplast culture? What are the main steps involved with protoplast culture?
- (c) What is vector mediated gene transfer? Give an example.
- (d) Define suspension culture. How many types of suspension cultures are there?
- (e) What are the main components of plant tissue culture media?
- (f) What do you mean by herbicide resistance plant? Give an example.
- (g) Define briefly about callus culture. What is the main principle of callus culture?
- (h) What is crown gall? How it is formed?
- (i) What is anther culture? What are the main factors involved in anther culture.
- (j) What is somatic organogenesis? How many types of organogenesis are there?

**2. Answer in few words**

**1X5**

- (a) Name some aseptic manipulation during tissue culture.
- (b) What is embryogenesis?
- (c) Name an insect resistance gene
- (d) What is reporter gene?
- (e) What are artificial seeds?

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**PAPER – CC11**

**Time: 1Hr**

**F.M – 25**

**1. Answer the followings in brief**

**2X10**

- (a) What do you mean by leading strand of DNA? Why is it so called?
- (b) What are Okazaki fragments? Why are so called?
- (c) State the central dogma.
- (d) What is *lac* operon? Why is it so called?
- (e) What do you mean by marker gene? Give an example.
- (f) What do you mean by semiconservative replication?
- (g) What do you mean by apoptosis? Name some enzymes responsible for apoptosis.
- (h) Name some factors which are responsible for cell cycle regulation.
- (i) What do you mean by gene cloning?
- (j) Write some properties of gene cloning.

**2. Answer in few words**

**1X5**

- (a) What is microtubule?
- (b) What is ribozyme?
- (c) Name some histone proteins
- (d) What is holoenzyme?
- (e) Name one stop codon