



# CBCS SCHEME

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17BT73

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 Plant Biotechnology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Quoting a suitable example, explain the role of growth hormone in plant regeneration under Invitro condition. (10 Marks)  
b. Give a detailed account on the steps involved in the embryo culture. Add a note on its application. (10 Marks)

OR

- 2 a. Write explanatory note on principle and working of particle bombardment. (10 Marks)  
b. Write a detailed account on Agrobacterium mediated gene transfer. (10 Marks)

### Module-2

- 3 a. Outline in detail the structure, function and mechanism of action of Cry – protein. (10 Marks)  
b. Write a critical note on Protease inhibitors and  $\alpha$  – amylase inhibitors. (10 Marks)

OR

- 4 a. Explain the transgenic strategy used in the development of viral resistant plant with respect to movement proteins. (10 Marks)  
b. In detail, explain the production of salinity resistant / tolerant plant. (10 Marks)

### Module-3

- 5 a. Explain the role of ACC Synthase in plant improvement. (10 Marks)  
b. Define Male Sterility in plants. Add a note on Barnase and Barstar system. (10 Marks)

OR

- 6 a. Outline the steps involved in the production of Herbicide tolerant plants. (10 Marks)  
b. Write a critical note on Edible vaccines and Poly hydroxy butyrate. (10 Marks)

### Module-4

- 7 a. Explain the role of nif and nod gene in nodule formation. (10 Marks)  
b. Indicate the mechanism used in genetic engineering of hydrogenase gene. (10 Marks)

OR

- 8 a. Explain the plant hormone signaling mechanism with reference to cytokenins. (10 Marks)  
b. Describe the light perception and signal networking in higher plants. (10 Marks)

### Module-5

- 9 a. With a neat labeled diagram, illustrate the morphological features and application of blue – green algae. (10 Marks)  
b. Give a detailed account of mass production of Spirulina. Add a note on its practical application. (10 Marks)

OR

- 10 a. Explain the role of Mycorrhizae as biofertilizers and brief about its association in plants. (10 Marks)  
b. Outline the steps involved in the mass cultivation of algae for agar – agar production and write the factors affecting its cultivation. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.