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10BT662

Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Plant Biotechnology

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART - A

- 1 a. Define Tissue culture. Give an explanatory note on media composition in tissue culture. (08 Marks)
b. Production of Haploid plants invitro, explain the process of ovule culture. (08 Marks)
c. Give a note on application of cryopreservation of germplasm storage. (04 Marks)
- 2 a. What is Plant genetic engineering? Explain the process of Agrobacterium mediated transformation technique. (10 Marks)
b. Give a short note on the following :
i) Ri – plasmid ii) Gene silencing. (10 Marks)
- 3 a. Give a note on biotic stress and explain the creation of insect resistant plants through gene approach. (10 Marks)
b. Give a short note on following :
i) Salinity resistant plants ii) Fungal resistant plants. (10 Marks)
- 4 a. Describe the role of barnase and barstar system in the production of male sterile plants. (06 Marks)
b. Explain the antisense technology with Flavr – Savr tomato as an example. (08 Marks)
c. Give a note on biosafety regulations of GMO. (06 Marks)

PART - B

- 5 a. Explain the molecules forming process for the production of Industrial enzymes. (08 Marks)
b. Give a detailed note on production of biodegradable plastic and its application. (08 Marks)
c. Give a short note on edible vaccines. (04 Marks)
- 6 a. What are biofertilizers? Write in detail their role in plant biotechnology (Agriculture). (10 Marks)
b. Write short note on following :
i) nif genes ii) hydrogenase metabolism. (10 Marks)
- 7 a. Define Signal transduction. Explain the molecular mechanism of Auxins and Cytokinin. (10 Marks)
b. Discuss the role of calcium signaling pathway in plants. (10 Marks)
- 8 a. Describe the process of identification of elite species and mass production of microalgae for practical application. (10 Marks)
b. Write short notes on the following :
i) Single cell protein ii) Mychorrhizae. (10 Marks)

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.