

T. Y. B. Sc. (Biotechnology) SEM – VI (CBCS - 2015 COURSE) :

SUMMER - 2019

Subject: Plant Biotechnology

Day: Saturday
Date: 13/04/2019

S-2019-1390

Time: 10.00 AM TO 01.00 PM
Max. Marks: 60

N.B.:

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in **SAME** answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What is the meaning of contamination in tissue cultures?
- b) Describe the scope of Plant Biotechnology
- c) Enlist various standard chemical formulations of nutrient media for plant cultures.
- d) Describe the specialty of growth room.
- e) What are the applications of genome analysis?
- f) What is DNA finger printing?

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Describe the technique for preparing stock solutions of auxins and cytokinins.
- b) Discuss historical review of Plant Biotechnology

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Techniques for gametoclonal variant selection
- b) Conservation methods of plant genetic resources

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Rhizogenesis
- b) Precursors and their importance

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What are the objectives of cryopreservation of germplasm?
- b) What are hairy root cultures? Explain their advantages.
- c) What are the safety assessments of foods developed using genetic engineering?
- d) Enlist most commonly grown genetically engineered crops.
- e) What genes are transferred into plants?
- f) Give names of plants that have been genetically modified.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Explain various steps involved in the long term storage of plant genetic resources.
- b) Describe the technique for the production of transgenic plants resistant to pathogens

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Commercialized compounds from plant cell cultures with their source and use.
- b) Commercial applications of genetic engineering in floriculture

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Reporter genes
- b) *Agrobacterium tumefaciens*
