

**BTECH**  
**(SEM VI) THEORY EXAMINATION 2018-19**  
**PLANT BIOTECHNOLOGY**

**Time: 3 Hours****Total Marks: 70****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A**

- 1. Attempt all questions in brief.** **2x7=14**
- a. Define totipotency.
  - b. What do you meant by dedifferentiation?
  - c. Define explnt.
  - d. Define somaclonal variation.
  - e. What do you meant by protoclones?
  - f. What is calliclones?
  - g. What is Ti plasmid?

**SECTION B**

- 2. Attempt any three of the following.** **3x7=21**
- a. How the Autotrophic plants are different from Heterotrophic plants.
  - b. What is explants selection? Explain different techniques of culturing in brief.
  - c. What do you meant by surface sterilization? Discuss the surface sterilization of explants in brief.
  - d. What do you meant by androgenesis? Explain anther culture in brief.
  - e. Write brief note on *In vitro* selection of mutant.

**SECTION C**

- 3. Attempt any one part of the following.** **7x1=7**
- a. Discuss germiclonal variation in brief.
  - b. What do you meant by somatic embryogenesis? Discuss embryogenesis in brief.
- 4. Attempt any one part of the following.** **7x1=7**
- a. What do you understand by micropropogation? Discuss different stages of micropropogation in brief.
  - b. Briefly explain application of plant tissue culture in agriculture.
- 5. Attempt any one part of the following.** **7x1=7**
- a. Discuss the method for production of marker free transgenic plant.
  - b. Discuss the application of haploid culture.
- 6. Attempt any one part of the following.** **7x1=7**
- a. What do you meant by gelling agent? Discuss the role of gelling agent in tissue culture medium.
  - b. Discuss the basic procedure for aseptic tissue transfer.
- 7. Attempt any one part of the following.** **7x1=7**
- a. How dedifferentiation is different from redifferentiation
  - b. Write a brief note on Acclimatization.