



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

**FIFTH SEMESTER – APRIL 2017**

**PB 5518- PLANT BIOTECHNOLOGY**

Date: 20-04-2017  
09:00-12:00

Dept. No.

Max. : 100 Marks

**PART – A**

***Answer the following, each within 50 words.***

**(10 x 2 = 20 marks)**

1. Mention the contributions of Murashige and Skoog?
2. What is acclimatization?
3. What are the advantages of meristem culture?
4. Define embryogenesis?
5. What is mtDNA?
6. Mention the features of Ti plasmid?
7. What are restriction enzymes?
8. Comment on microinjection?
9. What is DNA fingerprinting?
10. What is a genetic marker?

**PART – B**

***Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary***

**(5 x 7 = 35 marks)**

11.a. Describe the various types of sterilization techniques.

**[OR]**

b. Write about single cell culture and their significance.

12a. Write an account on somatic embryogenesis and artificial seeds.

**[OR]**

b. What is cryopreservation? Write about its applications.

13a. Write an account on the importance of Ti plasmid.

**[OR]**

b. Describe the interaction between *Rhizobium* and its host.

14a. Write an account on cloning vectors.

[OR]

b. Describe the steps in polymerase chain reaction.

15a. Describe the method of RAPD and its applications.

[OR]

b. Describe briefly about the Sangers method of DNA sequencing.

### PART – C

***Answer any three of the following, each within 1200 words. Draw diagrams and flow charts wherever necessary.*** (3 x 15=45 marks)

16. Describe briefly the various components of a tissue culture media.

17. Write an essay on protoplasmic fusion and add a note on somaclonal variation.

18. Describe the *Agrobacterium* mediated gene transfer in plants.

19. Differentiate gene library and cDNA library.

20. Describe the method of producing insect resistant plants.

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