

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

SIXTH SEMESTER – APRIL 2018

PB 6612– PLANT BIOTECHNOLOGY

Date: 17-04-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART – A

Answer the following, each within 50 words:

(10 x 2=20marks)

1. Mention the role of BAP and IBA in tissue culture.
2. Mention the use of White's and Nitsch medium.
3. What is meristem culture?
4. State the function of PEG.
5. Define Ti plasmid
6. What are *Vir* genes? Comment on its importance.
7. Comment on binary vector.
8. State the advantages of particle bombardment method.
9. State the principle of RFLP technique.
10. Define molecular markers.

PART B

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

(5 x 7=35marks)

11. a) Outline the steps involved in the surface sterilization of plant material.

(OR)

b) Define cell suspension culture and brief on its significance.

12. a) Distinguish between dedifferentiation and redifferentiation.

(OR)

b) Explain electro and chemo fusion methods of protoplast fusion.

13. a) Define T-DNA and state the functions encoded by integrated T-DNA.

(OR)

b) Write a brief note on the expression of genome in *Arabidopsis thaliana*.

14. a) What are restriction enzymes? State the use of restriction enzymes in biotechnology.

(OR)

b) Explain the type of vectors used in biotechnology.

15. a) Write a short note on RAPD marker and the advantages it offers.

(OR)

b) Give a brief account on the production of insect resistant transgenic plants.

PART – C

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

16) Write down the components of MS media. Describe the methodology of preparation of MS medium.

17) Describe with illustration androgenesis by anther and isolated pollen culture.

18) Give an account on the Genetic organization and function of Ti plasmids. Add a note on its importance in agriculture biotechnology.

19) What is taq DNA polymerase? Explain in detail the steps involved in PCR technique and its application

20) Expand RFLP and explain the procedure involved and state its applications.
