

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

SIXTH SEMESTER – APRIL 2022

16/17/18UPB6MS01 – PLANT BIOTECHNOLOGY

Date: 22-06-2022

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART A

(10 × 2 = 20 Marks)

Answer the following, each within 50 words.

01. Define plant nuclear genome.
02. Distinguish between Intron and Exon.
03. What is a plasmid?
04. Define Molecular probe.
05. Distinguish between Ti and Ri plasmid.
06. Mention any four vectors used in plant biotechnology.
07. What is an explant?
08. Differentiate embryoid from embryo.
09. Expand RFLP. Mention its importance.
10. Define plantibodies.

PART B

(5 × 7 = 35 Marks)

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

- 11 a) Chloroplast is called as semi-autonomous organelle- Justify.

OR

- b) Explain the process of transcription in eukaryotes.

- 12 a) What are restriction enzymes? Add a note on its features.

OR

- b) Explain the steps involved in PCR.

- 13 a) Write notes on reporter and selectable markers.

OR

- b). Describe the genetic organization and function of Ti Plasmid.

- 14 a) Give a brief notes on Somatic hybridization.

OR

- b) How are artificial seeds produced under *in vitro* condition?

- 15 a) Write notes on plant molecular farming.

OR

- b) Explain the steps in the production of insect resistant transgenic plant.

PART C

(3 × 15 = 45 Marks)

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.

16. Explain the post transcriptional and translational modifications.
17. Explain any four molecular techniques used in genetic engineering.
18. Explain the physical methods of gene transformation.
19. Enumerate the significances of Micropropagation, Anther and Embryo culture.
20. Explain the methodology of RAPD. Add a note on its importance in crop improvement.

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