

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



U.G. DEGREE EXAMINATION – ALLIED

FOURTH SEMESTER – APRIL 2022

UPB 4401 – PLANT BIOTECHNOLOGY AND BIOSTATISTICS

Date: 27-06-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

Part A

Answer the following, each within 50 words

(10 x 2 = 20 marks)

1. Differentiate green biotechnology from blue biotechnology.
2. What are cybrids?
3. What are the kinds of restriction enzymes?
4. Describe DNA Sequencing.
5. What is TATA box?
6. Describe reporter genes.
7. Differentiate multiple bar diagram from sub-divided bar diagram.
8. Define Range.
9. List the types of probability.
10. Expand and explain ANOVA.

PART B

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

(5 x 7 = 35 marks)

11a. Give a short account on the role of plant growth hormones.

or

b. Describe the protocol for callus culture. Add a note on its importance.

12a. Explain southern blotting technique and its applications.

or

b. Enumerate the essential characters of cloning vectors and mention its types?

13a. Present the genetic organization of Ti plasmid.

or

b. Write briefly on the marker genes in Plant Transformation.

14a. Define data. What are the various methods of data collection.

or

b. Give a brief account on variance.

15a. Present a brief account on population.

Or

b. Illustrate various components and applications of Microsoft Excel with suitable examples.

PART C

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary. (3 x15 = 45 marks)

16. Give a detailed account on the composition of the culture media.
17. Write the principle, requirements, procedure and importance of Agarose gel electrophoresis.
18. Present a detailed account on gene gun method of plant transformation.
19. Illustrate the measures of central tendency with suitable examples.
20. Discuss in detail on sampling and various methods of sampling.

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