



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FOURTH SEMESTER – APRIL 2023

UPB 4601 – BIOLOGICAL TECHNIQUES

Date: 06-05-2023

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. Write a short note on microphotography.
2. What is resolution of a microscope?
3. Give examples of any 2 acidic and basic dyes.
4. Write notes on double staining.
5. Define pH.
6. What is centrifugation?
7. State Beer-Lambert's law.
8. What is spectroscopy?
9. Write a note on chromatography.
10. Expand AGE and PAGE.

PART B

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

(5 x 7 = 35 marks)

11. a. Describe the layout on the haemocytometer and its measurement.
Or
b. Give a brief account on fixation in slide preparation.
12. a. Write notes on karyotyping.
Or
b. Give a brief account on the maceration technique.
13. a. Write notes on the lyophilization.
Or
b. Give a brief account on sonication.
14. a. Write notes on the principle of luminometry.
Or
b. Give a brief account on mass spectrometry.
15. a. Write a note on paper chromatography
Or
b. Explain the principle and uses of gel electrophoresis.

PART C

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

(3 x 15 = 45 marks)

16. Give an account on the steps involved in micrometry.
17. Discuss the steps involved in herbarium preparation and preservation.
18. Discuss in detail the working principle of the pH meter.
19. Write in detail on the working of the single and double beam spectrophotometer. Add note on PMT.
20. Give a detailed account on gas chromatography and the working of flame ionization detector (FID).

\$\$\$\$\$\$