

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

FOURTH SEMESTER – APRIL 2022

UPB 4601 – BIOLOGICAL TECHNIQUES

Date: 23-06-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

Part – A

(10 x 2 =20 Marks)

Answer the following, each within 50 words

1. Define macrophotography.
2. List the advantages of microtome.
3. Write notes on whole mounting technique.
4. What is maceration?
5. Define pH.
6. Write notes on sonication.
7. What is mass spectroscopy?
8. State Beer – Lambert's law.
9. What is differential solubility?
10. Define electrophoresis.

PART – B

(5 x 7 = 35 Marks)

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

- 11a. Give a brief account on haemocytometer and the calculation of RBC and WBC count.
or
b. Describe briefly on the dehydration of samples.
- 12a. Write notes on karyotyping.
or
b. Write notes on the sectioning of lower cryptogams.
- 13a. Give a brief account on cryopreservation.
or
b. Describe the process of lyophilization with applications.
- 14a. Discuss briefly on the working principle of single beam spectrophotometer.
or
b. Explain the working principle of NMR spectroscopy.
- 15a. Explain in detail about column chromatography and its uses.
or
b. Write notes on Agarose gel electrophoresis and its applications.

PART – C

(3 x15 = 45 Marks)

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

16. Give a detailed account on fixation and its types.
17. Explain the various steps involved in preparation of herbarium.
18. Discuss in detail on the types of density gradient centrifugation.
19. Give a detailed account on luminometry and its applications.
20. Discuss in detail about paper chromatography and Thin layer chromatography,

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