



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

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

**FOURTH SEMESTER – APRIL 2019**

**16/17UPB4ES01– BIOLOGICAL TECHNIQUES**

Date: 09-04-2019  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART A**

*Answer the following, each within 50 words.*

**(10 x 2 = 20 Marks)**

1. Write notes on dehydration.
2. What is photomicrography?
3. Distinguish between smear and squash techniques.
4. What is maceration technique?
5. Define pH.
6. List the types of rotors.
7. State Beer-Lambert's law.
8. Write notes on spectrofluorimetry.
9. What is 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) Write short notes on microscopy.

OR

- (b) Give a brief account on haemocytometer.

12. (a) Write short notes on whole mount preparation of algae and fungi.

OR

- (b) Explain the process of karyotyping.

13. (a) Give a brief account on differential centrifugation.

OR

- (b) Explain the process of lyophilization.

14. (a) Discuss the principle of infra-red spectroscopy.

OR

- (b) Write briefly on the principle of Atomic Absorption Spectroscopy and Atomic Emission Spectroscopy.

15. Explain the technique of thin-layer chromatography.

OR

- (b) Discuss briefly on the principle of HPLC.

## 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 a detailed account on the steps involved in microtomy.
17. Write in detail on collection of plants and preparation of herbarium.
18. Discuss in detail on the working principle and applications of pH meter.
19. Write short notes on : a) single beam spectrophotometer b) Mass spectroscopy.
20. Give an account on the polymerase chain reaction and its applications.

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