



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – APRIL 2019

16UZO5ES03– BIO INSTRUMENTATION SCIENCE

Date: 24-04-2019
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

Part-A

Answer all the questions

(10×2=20 Marks)

1. What is Molarity?
2. Define molecular weight.
3. Explain the working principle of a Light microscope.
4. What is the principle underlying mass Spectrometry?
5. What are pH indicators? Give two examples.
6. Describe the cantilever-based biosensors.
7. Write a short note on Rf value of chromatography.
8. What is Erythrocyte Sedimentation Rate?
9. Describe how Haemoglobin is measured.
10. What is indirect immunofluorescence technique?

Part-B

Answer any FOUR questions

(4×10=40 Marks)

11. Write short notes on the different types of Laminar flow hood.
12. Explain in detail the principle and working of a transmission electron microscope.
13. Describe the technique of X-ray Crystallography.
14. Give an account of Enzyme-Linked Immunosorbent Assay.
15. Explain how nuclear magnetic resonance imaging is performed.
16. Discuss the procedure for isolation of DNA from cells.

Part-C

Answer any TWO questions

(2×20=40 Marks)

17. Give an account of the principle and procedure of cryopreservation.
18. Write notes on the following: (i) Thin layer chromatography (ii) Spectrophotometry.
19. Discuss how electrocardiography and blood pressure is measured.
20. Explain the following :
(i) Polymerase chain reaction (ii) Fluorescent *in situ* hybridization.
