



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – NOVEMBER 2022

UAZ 5603 – BIO. INSTRUMENTATION SCIENCE

Date: 30-11-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART – A

Answer ALL the questions

(10×2=20 Marks)

1. What are the three points to be kept in mind while handling laboratory animals?
2. Explain the working principle of Scanning Electron Microscope.
3. Draw and label the parts of a spectrophotometer.
4. Mention any two applications of laser.
5. How is blood pressure measured using a sphygmomanometer?
6. What is erythrocyte sedimentation rate?
7. How do alcohol biosensors measure alcohol levels?
8. How are CT scan images produced?
9. Expand ELISA and explain indirect ELISA.
10. Mention any two applications of Western blotting.

PART – B

Answer any FOUR questions

(4×10=40 Marks)

11. Describe the technique of X-ray crystallography.
12. Write a note on ion exchange chromatography.
13. Give an account of the working principle of ultrasound scanning.
14. Explain the procedure for Southern blotting.
15. Describe the different types of laminar flow hoods.
16. Write a note on atomic force microscopy.

PART – C

Answer any TWO questions

(2×20=40 Marks)

17. Give an account of cryopreservation of cells.
18. Describe the design and working mechanism of a mass spectrometer.
19. Write a detailed note on cardiac pacemakers.
20. Explain the principle and procedure for SDS-PAGE.

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