

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – NOVEMBER 2016

AZ 5402 – INSTRUMENTATION AND CHEMICAL TECHNIQUES

Date: 11-11-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART A

Answer all the questions:

(10×2=20 Marks)

1. What is a buffer? What is it used for?
2. Name the polymerase enzyme commonly used for the polymerase chain reaction. Why is it specifically chosen over other polymerases?
3. Draw the symbol & mention the symbol for Radiation and Biohazard.
4. Name two physical factors of sterilization.
5. What is ultrasound? What is its medical application?
6. What is the temperature and pressure used in autoclaving?
7. Define Electrophoresis and chromatography
8. Abbreviate ESR, EMG, ECG & EEG.
9. Differentiate Electrode from Electrolyte.
10. Describe competitive ELISA.

PART B

Answer any FOUR questions

(4×10=40 Marks)

11. Give an account of the principle and procedure of colorimetry.
12. Give an account of the principle and working mechanism of the Geiger Muller counter.
13. What is LASER? Elaborate its types and medical applications.
14. Write a note on gel filtration chromatography.
15. Write the procedure for estimation of haemoglobin concentration in the blood of human.
16. Discuss the classification of medical instruments.

PART C

Answer any TWO questions

(2×20=40 Marks)

17. Explain in detail about the following:
a) Soxhlet apparatus b) Incubators c) Centrifuge.
18. Describe the principle and procedure for SDS polyacrylamide gel electrophoresis.
19. Describe the polymerase chain reaction and mention its applications.
20. Discuss the working of a flow cytometer.
