QP CODE: 26018641

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Reg No : .....

Name : .....

MSc DEGREE (CSS) SPECIAL REAPPEARANCE EXAMINATION MARCH 2026

Third Semester

M Sc ZOOLOGY

CORE COURSE - ZL010303 - BIOPHYSICS,INSTRUMENTATION AND BIOLOGICAL TECHNIQUES

2024 ADMISSION ONLY

03BE69FD

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Comment on haemolysis.
2. Mention electron carriers in electron transport chain.
3. Radiations can damage living tissues on interacting with them. Comment on the most damaging phenomenon resulting from such interactions.
4. Give a note on different parts of Atomic Force Microscopy.
5. What is histochemistry?
6. What are ampholytes?
7. What is disc electrophoresis?
8. Write notes on Hollow cathode lamp.
9. What is Tandem Mass Spectrometry?
10. Write down the uses of Bionanorobotics in medical field.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. A person who is continually exposed to sunlight eventually develops defects in DNA. Explain the cause and actual changes happening to DNA molecules in this case.
12. Explain the importance of specimen preparation in electron microscopes. Describe any two methods.
13. Give a brief note on whole mounts and smears.

14. Write about the principle, instrumentation and working mechanism of any one centrifuge.

15. Write notes on Gel Permeation Chromatography.

16. Briefly write the difference between colorimetry and spectrophotometry.

17. Comment on the Instrumentation of NMR spectroscopy.

18. Explain the principle and working of ionization chamber.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Elaborate on the radioisotopes used in Nuclear medicine. Add a note on its applications.

20. Explain the principle, working and uses of Scanning electron microscope with a neat labelled diagram.

21. Explain the working of ion -exchange chromatography and affinity chromatography.

22. Write an essay on principle, instrumentation and applications of FTIR and Raman Spectroscopy.

(2×5=10 weightage)