

QP CODE: 21000412



21000412

Reg No :

Name :

M Sc DEGREE (CSS) EXAMINATION, MARCH 2021

Third Semester

Faculty of Science

M Sc ZOOLOGY

**CORE - ZL010303 - BIOPHYSICS, INSTRUMENTATION AND BIOLOGICAL
TECHNIQUES**

2019 Admission Onwards

9DEBAF38

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight 1 each.

1. Briefly describe photoelectric effect.
2. Exposure to radiations can lead to cancer. Explain.
3. Comment on the use of radioiodine in gland function analysis.
4. What is freeze fracturing? Where is it applied?
5. Name different types of microtomes. Mention its function.
6. What is chromatography? Mention the different types along with its function.
7. What is disc electrophoresis?
8. Comment on Colorimeter.
9. Write the principle of Electron Spin Resonance spectroscopy.
10. What is meant by quenching?

(8×1=8 weightage)





Part B (Short Essay/Problems)

Answer any **six** questions.

Weight **2** each.

11. Differentiate open, closed and isolated thermodynamics systems with suitable example.
12. Briefly explain Scanning Tunnelling microscope.
13. Give a note on the histochemistry of nucleic acids.
14. What are the general applications of a Centrifuge?
15. Write notes on isoelectric focusing.
16. Write the difference between Raman and Infrared spectroscopy.
17. Explain the difference between Flame emission spectroscopy and Atomic absorption spectroscopy.
18. Write the uses of a) multifunctional materials, b) Electroactive polymer.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight **5** each.

19. Give a detailed account on Chemo-bioenergetics.
20. Explain the principle, working and uses of Transmission Electron microscope with a neat labelled diagram.
21. Discuss in detail about the working of Gel permeation chromatography and High Performance Liquid Chromatography.
22. Write an essay on principle, instrumentation and applications of Mass spectroscopy.

(2×5=10 weightage)

