

19001662



Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, JUNE 2019

Second Semester

Faculty of Science

Branch VIII : Zoology

ZY 2C T09—BIOPHYSICS, INSTRUMENTATION AND BIOLOGICAL TECHNIQUES

(2012 Admission onwards)

Time : Three Hours

Maximum Weight : 30

Section I (Short Answer Type Questions)

Answer any ten out of twelve.

Weight 1 each.

1. Explain Graham's law.
2. What is thin layer chromatography ?
3. Write on the principle and application of pH meter ?
4. Give the principles of NMR spectroscopy.
5. Add note on flame emission spectroscopy.
6. Define radioisotopes ? Mention any *three* uses.
7. State the laws of thermodynamics.
8. Differentiate endocytosis and exocytosis.
9. Define osmosis and osmotic pressure.
10. What are artificial membranes ? Give examples.
11. Biological effects of ionizing radiations.
12. What is isoelectrical focusing ? Mention its applications.

(10 × 1 = 10)

Turn over





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Section II (Short Essay Type Questions)

Answer any five out of eight.

Weight 2 each.

13. Explain the principles and working of gas exchange chromatography and ion exchange chromatography.
14. Describe the light reaction in photosynthesis.
15. Differentiate between paper electrophoresis and immuno electrophoresis.
16. Discuss the principle, working and application of scanning electron microscopy.
17. Comment on active transport with examples.
18. Write the staining methods in electron microscope
19. Discuss Gibbs-Donnan membrane equilibrium and its significant.
20. Discuss the principle of path clamping.

(5 × 2 = 10)

Section III (Long Essay Type Questions)

Answer any two out of three.

Weight 5 each.

21. Explain electron transport chain and oxidative phosphorylation.
22. Describe the method of PAGE ? Mention its uses.
23. What is nanotechnology ? Explain its role in the field of health care and environmental management.

(2 × 5 = 10)

