

TM243317A

Reg. No :

Name :

MASTER'S DEGREE (C.S.S) EXAMINATION, FEBRUARY 2024
2022 ADMISSIONS SUPPLEMENTARY (SAY)
SEMESTER III - CORE COURSE Zoology
ZO3C11TM20 - Biophysics, Instrumentation and Biological Techniques

Time : 3 Hours

Maximum Weight : 30

Part A

I. Answer any Eight questions. Each question carries 1 weight

(8x1=8)

1. Compose a brief account on photoelectric effect.
2. Compare diffusion and osmosis.
3. State and describe the laws of thermodynamics.
4. What do you mean by negative staining?
5. Enumerate the different factors affecting fixation.
6. Write a short note on adsorption chromatography.
7. Write the principle of chromatography.
8. Write a note on MALDI-TOF. Mention its applications.
9. Explain the basic principle of spectrophotometry.
10. Write a note on different nanomaterials used in nanotechnology.



Part B

II. Answer any Six questions. Each question carries 2 weight

(6x2=12)

11. Explain facilitated diffusion with the help of an example.
12. Exemplify the biological effects of radiation.
13. Elaborate on nomarsky microscopy.
14. Enumerate different types of microtomes and its applications.
15. Differentiate between SDS and non-SDS gel electrophoresis.
16. Write notes on size exclusion chromatography and its applications.
17. Write notes on atomic absorption spectroscopy. Mention its applications.
18. Compare the working of solid and liquid scintillation counters used for radioisotope detection.

Part C

III. Answer any Two questions. Each question carries 5 weight

(2x5=10)

19. Enumerate the general features of photophosphorylation. Demonstrate the light and dark reactions in photosynthesis.
20. Write an elaborate account on electron microscope.
21. Write an essay on chromatography, its various types and applications.
22. Write an essay explaining the basic principle of colorimetry and spectrophotometry. Mention the applications.