

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(Regular/Improvement/Supplementary)
ZOOLOGY

FZOL1C02- BIOPHYSICS AND BIOSTATISTICS

Time: 3 Hours

Maximum Weightage: 30

Part A: Answer any *four* questions. Each carries *two* weightage.

1. What are colloids? What are its properties?
2. Write a short note on single neuron recording.
3. What are the limitations of statistics?
4. Comment on buffers.
5. What are the effects of positive and negative G–force?
6. Give a short note on the different types of data.
7. Enumerate the benefits of nanotechnology.

(4 × 2 = 8 weightage)**Part B: Answer any *four* questions. Each carries *three* weightage.**

8. Discuss Gibb's Donnan equilibrium.
9. Illustrate various random sampling methods.
10. Write a note on Echolocation.
11. Describe standard deviation.
12. Comment on NMR spectroscopy.
13. Explain Poisson probability distribution.
14. Find Karl Pearson's coefficient of correlation for the following data.

Sl.No.	Age (Years)	Weight (Kg)
1	7	12
2	6	8
3	8	12
4	5	10
5	6	11
6	9	13

(4 × 3 = 12 weightage)**(P.T.O.)**

Part C: Answer any two questions. Each carries *five* weightage.

15. Write an essay on the biological effects of ionizing radiations.
16. Describe the working and principle of TEM. Differentiate TEM from SEM.
17. Discuss various parametric tests.
18. Define chromatography. Explain the basic principle, working and applications of HPLC.

(2 × 5 = 10 weightage)