D1AZL2202 **(2 Pages)** **Name.....**

Reg.No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2022

(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. Write down the importance of buffer solution in biology.
2. How can you record brain activity? Briefly describe any two techniques.
3. Write a note on line of best fit.
4. Differentiate between NMR and Mass spectrometry.
5. Write down the laws of probability.
6. Define kurtosis and skewness.
7. Write a note on properties and forms of colloids.

(4 × 2 = 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. Give a brief description about Thin Layer Chromatography.
9. Write a note on measures of central tendency and measures of dispersal.
10. Describe physical organization of ear and mechanism of sound transmission.
11. Give a brief description about sampling techniques.
12. Write an account of Laser and its applications in biology.
13. State the law of diffusion and write down the application of diffusion in biology.
14. Write down the applications of nanotechnology in medical field.

(4 × 3 = 12 weightage)

(P.T.O.)

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

15. Write an essay on principle, working and applications of PAGE.

16. Differentiate parametric and non-parametric tests. Describe briefly on various parametric tests.

17. What is meant by radioactivity? Give an account on biological effects of ionizing radiations.

18. Calculate the Karl Pearson's coefficient of correlation from the data given below. Interpret your results.

Fertilizers used (metric tonnes)	15	18	20	24	30	35	40	50
Productivity of land (metric tonnes)	85	93	95	105	120	130	150	160

(2 × 5 = 10 weightage)