

[SZ - S 134B]

M.Sc. DEGREE EXAMINATION

Zoology

First Semester

BIO STATISTICS AND BIOINFORMATICS

(Effective from the admitted batch of 2022-2023)

Time : 3 Hours

Max. Marks: 70

*Answer ONE questions from each Unit.
All question carry equal marks.*

UNIT - I

1. (a) Explain the applications of biostatistics in modern research. *3+5*
- (b) Discuss the methods of sampling and sampling errors. *Population sampling*

(OR)

2. (a) Give an account on diagrammatic and graphical presentation of data.
- (b) Write notes on types of biological data. *in Agricul*

UNIT - II

3. (a) Describe the measures of central tendency with suitable examples. *40*
- (b) What are the measures of dispersion? *in populat*

(OR)

4. (a) Differentiate between binomial and Poisson distributions. *in Anal*
- (b) Write down the applications of normal distribution. *in*

(P.T.O.)

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UNIT - III

5. (a) Differentiate between PD_{50} and ED_{50} values in a toxicity study.
- (b) What is count data? Explain the statistical treatment given to count data to derive conclusions.

(OR)

- 5 6. (a) What is Chi - Square test? Explain its importance with an example. 4
- (b) Discuss the concept of Null hypothesis.

UNIT - IV

- 7 5 3 (a) Explain one way ANOVA with suitable examples.
- (b) What is correlation? Describe its concept and applications.

(OR)

8. (a) What is two way ANOVA? Explain its advantages in interpretation of data.
- (b) Give an account on regression coefficient and fitting of regression lines.

UNIT - V

9. (a) Describe the nucleic acid sequence databases and their importance. Genbank EMBL DDBJ
- (b) Explain the basis of designing a micro array.

(OR)

10. (a) Write an account on protein prediction tools.
- (b) Discuss the phylogenetic analysis with the program PHYLIP.

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