Code No. : 7789 Sub. Code : WZOE 12

M.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2023.

First Semester

Zoology

Elective I — BIOSTATISTICS

(For those who joined in July 2023 onwards)

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL the questions.

Choose the correct answer :

1. Match Pie diagram with the following.
   (a) cardogram
   (b) pictogram
   (c) histogram
   (d) angular diagram

2. Name the data which classified based on the quality or attributes are called
   (a) descriptive classification
   (b) chronological
   (c) region wise classification
   (d) geographical classification

3. Match the following one with the Variance.
   (a) Lilly (b) Fisher
   (c) Huxley (d) Ronald

4. Select the value of the variable which occurs most frequently in a distribution.
   (a) mean (b) median
   (c) kurtosis (d) mode

5. Tell the distribution which extensively used in biological research.
   (a) poission (b) binomial
   (c) normal (d) none of the above

6. Tell the name of the occurrence of two or more simple events simultaneously.
   (a) simple event (b) compound event
   (c) dependent event (d) all the above

7. The correlation co efficient is the measures of
   (a) SD (b) Correlation
   (c) Probability (d) Mean

8. Choose the another name of independent variables in regression analysis.
   (a) predictor (b) regressor
   (c) explanator (d) all the above

9. What is the name given to the classification of data on the basis of one factor?
   (a) One way ANOVA (b) Correlation
   (c) Two way ANOVA (d) Regression

10. Which type of analysis in SPSS is used to explore the relation between a dependent and independent variables?
    (a) descriptive analysis
    (b) factor analysis
    (c) correlation analysis
    (d) regression analysis

11. What is the source of primary data in research?
    (a) survey
    (b) observation
    (c) observation and survey
    (d) internet

12. The standard deviation measures —————.
    (a) median value (b) range
    (c) variability (d) mean value

13. What is the shape of the normal distribution probability density function?
    (a) U shape (b) Bell shape
    (c) Exponential (d) Uniform

14. Which type of regression is used when there is more than one independent variables?
    (a) multiple linear regression
    (b) simple linear regression
    (c) logistics regression
    (d) polynomial regression

15. In One way ANOVA what is the dependent variable typically?
    (a) the factor
    (b) the error
    (c) the within group variance
    (d) the outcome variable

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Explain the Pictogram.

Or

(b) Write short note on Histogram and Construct the histogram for the following data :

Marks :	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students :	5	7	10	15	13	10	6

17. (a) Find out the median size of fish.

Size of the fish (inches)	4	5	6	7	8	9
Frequency	10	15	22	16	12	5

Or

(b) Elaborate the following :

    (i) Mode

    (ii) Range.

18. (a) Explain the basic concepts of Probability.

Or

(b) Explain the Binomial distribution.

19. (a) Summarize the rank correlation.

Or

(b) Explain the types of regression analysis.

20. (a) Discuss the statistical package used for data analysis in social sciences.

Or

(b) Write the applications of SPSS.

PART C — (5 × 8 = 40 marks)

Answer ALL the questions, choosing either (a) or (b).

21. (a) Discuss the different types of bar diagram.

Or

(b) Elaborate the sources of Secondary data collection.

22. (a) Find out the Mean for the following.

Marks (x) :	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students (f) :	10	18	20	26	30	28	18

Or

(b) Calculate the Standard deviation for the following data :

x :	10	20	30	40	50	60
f :	8	12	20	10	7	3

23. (a) Discuss the various theorems for calculating the probability.

Or

(b) Discuss the properties and applications of normal distribution.

24. (a) Give an account of paired sample t test.

Or

(b) Calculate the Karl Pearson's correlation coefficient.

X :	12	18	16	15	12	10	20	17
Y :	6	10	9	8	9	8	12	10

25. (a) Outline the purpose and steps involved in conducting regression analysis in SPSS.

Or

(b) Discuss the Two way Analysis of Variance.

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