

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2022
(Fifth Semester)**

Branch – ZOOLOGY

BIO STATISTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 The statistical results are,
(i) Cent per cent correct (ii) True only on an average
(iii) Always incorrect (iv) Misleading
- 2 _____ is one which is collected by the investigator himself for the purpose of a specific inquiry or study.
(i) Secondary data (ii) Primary data
(iii) Statistical data (iv) Published data
- 3 Mention the classification is applicable in case of:
(i) Quantitative characters (ii) Qualitative characters
(iii) Both (i) and (ii) (iv) None of (i) and (ii)
- 4 The most appropriate graph to represent the data relating to the monthly expenditure on different items by a family is:
(i) Histogram (ii) Pie – diagram
(iii) Frequency polygon (iv) Line graph
- 5 Indicate the median of the variate values 11,7,6,9,12,15,19
(i) 9 (ii) 12 (iii) 15 (iv) 11
- 6 Which of the following is a measure of central value?
(i) Median (ii) Standard deviation
(iii) Mean deviation (iv) Quartile deviation
- 7 What is the standard deviation of 1,2,3,4,5?
(i) $\sqrt{2}$ (ii) $\sqrt{3}$ (iii) $\sqrt{4}$ (iv) $\sqrt{5}$
- 8 Which of the following is the formula for Range?
(i) L-S (ii) L+S (iii) $\frac{L-S}{L+S}$ (iv) S-L
- 9 Indicate the range of correlation coefficient:
(i) -1 to +1 (ii) -1 to +2 (iii) 1 to 2 (iv) -1 to 2
- 10 Identify the regression coefficient of X on Y is
(i) $r^2 \frac{\sigma_x}{\sigma_y}$ (ii) $r \frac{\sigma_x}{\sigma_y}$ (iii) $r \frac{\sigma_y}{\sigma_x}$ (iv) $2r \frac{\sigma_x}{\sigma_y}$

SECTION - B (35 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

- 11 a Bring out the methods of Collecting the primary data.

OR

Cont...

- b Describe the sources of secondary data.
12 a Narrate the Role of tabulation.
OR
b Summarize the limitations of diagrams and Graphs
- 13 a Outline the merits of Mean and Median.
OR
b Calculate the arithmetic mean from the following data
Middle income :6 8 10 12 14 16 18
No of Employees :21 55 124 180 136 73 11
- 14 a Calculate the coefficient of quartile deviation from the following data
Marks : 10 20 30 40 50 60
No of Students : 4 7 15 8 7 2
OR
b Describe the range and its coefficient of range for the following values
25 24 23 32 40 27 30 25 20 10 15 45
- 15 a Two ladies were asked to rank 7 different types of lipsticks.
The ranks given by them are as follows

Lipsticks	A	B	C	D	E	F	G
Meena	2	1	4	3	5	7	6
Lakshmi	1	3	2	4	5	6	7

Calculate the spearman's rank correlation coefficient.

OR

- b Summarize the difference between the Correlation and Regression.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Highlight the merits and demerits of primary and secondary data.
17 Discuss out the type of classification.
18 Trace the mean, median and mode for the following data.
- | C.I | 0 – 20 | 20 – 40 | 40 – 60 | 60 – 80 | 80 – 100 |
|-----|--------|---------|---------|---------|----------|
| f | 8 | 12 | 30 | 20 | 10 |
- 19 From the prizes of shares of X and Y below select which is more stable in value
- | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| X | 35 | 54 | 52 | 53 | 56 | 58 | 52 | 50 | 51 | 49 |
| Y | 108 | 107 | 105 | 105 | 106 | 107 | 104 | 103 | 104 | 101 |
- 20 Identify the correlation coefficient from the following data.
- | | | | | | | | | |
|---|-----|----|----|----|----|----|----|----|
| X | :65 | 66 | 67 | 67 | 68 | 69 | 70 | 72 |
| Y | :67 | 68 | 65 | 68 | 72 | 72 | 69 | 71 |

Z-Z-Z

END