

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2024
(Fifth Semester)

Branch – ZOOLOGY

BIOSTATISTICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Which of the following is an example of secondary data?
(i) Data collected from a survey (ii) Data from an interview
(ii) Data published in research papers (iv) Data collected by observation
2. Which type of graph is best suited for representing frequency distribution?
(i) Line graph (ii) Pie chart (iii) Histogram (iv) Scatter plot
3. Which measure of central tendency is most affected by extreme values?
(i) Mean (ii) Median (iii) Mode (iv) Range
4. Which of the following is a measure of variation?
(i) Mean (ii) Mode (iii) Range (iv) Median
5. Which of the following correlation coefficient represents the strongest relationship?
(i) 0.85 (ii) -0.90 (iii) 0.10 (iv) -0.30

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Define Biostatistics. Also write the development of Biostatistics.
OR
b Write short notes on population and sample.
- 7 a What do you understand by tabulation ? State any six points that should be kept in mind while tabulating the data.
OR
b The following data relating to the strength of the Indian Merchant Shipping Fleet gives the Gross Registered Tonnage (GRT) as on 31st December, for different years.

Year :	1961	1966	1971	1975	1976
GRT in '000 :	901	1792	2500	4464	5115

Represent the data by a suitable bar diagram.

- 8 a Find out the Mean, Median and Mode in the following series:

Size (below) :	5	10	15	20	25	30	35
Frequency :	1	3	13	17	27	36	38

OR

- b Write the merits and demerits of arithmetic mean.

- 9 a State the merits and demerits of standard deviation.

OR

- b Calculate mean deviation about A.M. from the following :

Value (x) :	10	11	12	13	14
Frequency (f) :	3	12	18	12	5

- 10 a The ranks of the same 15 students in two subjects A and B are given below ; the two numbers within the brackets denoting the ranks of the same student in A and B respectively. (1, 10), (2, 7), (3, 2), (4, 6), (5, 4), (6, 8), (7, 3), (8, 1), (9, 11), (10, 15), (11, 9), (12, 5), (13, 14), (14, 12), (15, 13). Use Spearman's formula to find the rank correlation coefficient.

OR

Cont...

Q.no10 Cont...

- b Write the properties of correlation coefficient.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a Briefly explain the sources of secondary data.

OR

- b Discuss the methods of collecting primary data.

- 12 a Draw a histogram and frequency curve for the following distribution :

Age (Yrs.) :	17-19	19-21	21-23	23-25	25-27	27-29	29-31
No. of Students :	7	12	24	30	22	15	6

OR

- b Classify the following data by taking class intervals such that their mid-values are 17, 22, 27, 32, and so on.

30	42	30	54	40	48
15	17	51	42	25	41
30	27	42	36	28	26
37	54	44	31	36	40
36	22	30	31	19	48
16	42	32	21	22	46
33	41	21			

- 13 a The following table shows the frequency distribution of ages (in years) of participants in a survey:

Age (Yrs.) :	21-30	31-40	41-50	51-60	61-70
Frequency :	5	8	12	15	10

Calculate the mean, median and mode of the ages.

OR

- b Write a detailed note on various measures of finding average.

- 14 a Compute the Coefficient of Quartile Deviation for the following data :

Size	4-8	8-12	12-16	16-20	20-24	24-28	28-32	32-36	36-40
Frequency	6	10	18	30	15	12	10	6	2

OR

- b From the data given below state which series is more consistent?

Variable:	10-20	20-30	30-40	40-50	50-60	60-70
Series A:	10	18	32	40	22	18
Series B:	18	22	40	32	18	10

- 15 a Calculate Karl Pearson's coefficient of correlation between expenditure on advertising and sales from the data given below.

Advertising expenses ('000 Rs.) :	39	65	62	90	82	75	25	98	36	78
Sales (lakh Rs.)	47	53	58	86	62	68	60	91	51	84

OR

- b From the data given below find :

- (a) The two regression coefficients. (b) The two regression equations.
(c) The coefficient of correlation between the marks in Economics and Statistics.
(d) The most likely marks in Statistics when marks in Economics are 30.

Marks in Economics :	25	28	35	32	31	36	29	38	34	32
Marks in Statistics :	43	46	49	41	36	32	31	30	33	39