

PSG COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS)

BA DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – ECONOMICS

STATISTICAL METHODS – I

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- The focus groups, individual respondents and panels of respondents are classified as
(i) Pointed data sources (ii) itemized data sources
(iii) secondary data sources (iv) primary data sources
- When the quantitative and qualitative data are arranged according to a single feature, what is the tabulation known as?
(i) One-way (ii) Bivariate
(iii) Manifold division (iv) Dichotomy
- Which measure of central tendency includes the magnitude of scores?
(i) Mean (ii) Mode
(iii) Median (iv) Range
- If the distribution is negatively skewed, then the _____
(i) Mean is more than the mode (ii) median is at right to the mode
(iii) mean is less than the mode (iv) mean is at right to the median
- The correlation for the values of two variables moving in the same direction is _____
(i) Perfect positive (ii) Negative
(iii) Positive (iv) No correlation

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- (a) Outline the characteristics of statistics.
OR
(b) Bring out the differences between sampling error and non-sampling error.
- (a) A die was thrown 25 times and following scores were obtained : 1, 5, 2, 4, 3, 6, 1, 4, 2, 5, 1, 6, 2, 6, 3, 5, 4, 1, 3, 2, 3, 6, 1, 5, 2 Prepare a frequency table of the scores.
OR
(b) Draw a bar graph using the information in the table below.

A	B	C	D	E	F
200	300	225	350	275	325

- (i) Which of the letters A, B, C, D, E, and F has the highest value?
(ii) Which of the following is greater: A + D or B + E?

- (a) Find the mean for the following distribution.

X	15	21	27	30	35
F	3	5	6	7	8

OR

- (b) The weekly expenditure of 5 families in rupees are given below:

Family	A	B	C	D	E
Expenditure (Rs.)	300	325	350	375	425

Calculate the standard deviation and its coefficient by Direct method.

Cont...

9. (a) First four moments about mean of a distribution are 0, 2.5, 0.7 and 18.75. Find coefficient of skewness and kurtosis.

OR

- (b) Show the differences between skewness and kurtosis.

10. (a) Calculate rank correlation coefficient from the following data:

X	78	89	97	69	59	79	68
Y	125	137	156	112	107	136	124

OR

- (b) Enumerate the uses of regression analysis.

SECTION -C (30 Marks)

Answer ALL questions

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

11. (a) Trace the important sources of secondary data.

OR

- (b) Enumerate the merits and demerits of stratified sampling.

12. (a) There are 60 students in a class, following table shows the data for of their result

Result	First Class	Second Class	Third Class	Fail
Number of students	35%	45%	15%	5%

Draw a pie chart for this information.

OR

- (b) Draw Frequency polygon by using the following data.

Class	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50
Frequency	110	170	80	45	40	35

13. (a) Consider a data set of following numbers: 22, 12, 14, 7, 18, 16, 11, 15, 12. You are required to calculate the Quartile Deviation.

OR

- (b) Examine the significance of Lorenz curve.

14. (a) Compute the first four moments about mean from the following data.

Class Intervals	0 – 10	10 – 20	20 – 30	30 – 40
Frequency (f)	1	3	4	2

OR

- (b) Find β_1 for the following data $\mu_1=0, \mu_2=8.76, \mu_3=-2.91$ (b) Find the value of β_2 for the following data $\mu_1 = 0, \mu_2 = 4, \mu_3 = 0, \mu_4 = 37.6$.

15. (a) Trace different types of correlation.

OR

- (b) Find the two-regression equation of X on Y and Y on X from the following data:

X	10	12	16	11	15	14	20	22
Y	15	18	23	14	20	17	25	28

Z-Z-Z END