BCO-312

Sl. No.

III Year B.Com. Degree Examination, October/November - 2024
BUSINESS STATISTICS AND QUANTITATIVE TECHNIQUES
(Non-CBCS, SLM Scheme)

Time : 3 Hours **Maximum Marks : 80**

PART - A

Answer any Four questions. Each question carries 5 Marks. **(4×5=20)**

1. Find the present value of a bill of Rs. 2,160 due in 3 years at 20% compound interest.

2. In a college, there are 500 students studied statistics and 400 students studied Mathematics there are 200 students who studied both statistic and mathematics. Find how many students don't study mathematics but study only statistics. Use Venn diagram.

3. Briefly explain the different methods of measures of dispersion.

4. Briefly explain the different types of correlation.

5. Calculate the mean from the following data

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	6	5	8	12	5	15

6. Calculate the rank correlation coefficient for the following data.

x	4	8	10	6	6	7	8	5
y	2	5	6	3	9	8	10	7

PART - B

Answer any Three questions. Each question carries 10 marks. **(3×10=30)**

7. A and B are two products to be manufactured. Unit profits are Rs. 40 and Rs. 35 respectively. Maximum materials available is 60 kgs and labour 96 hours. Each unit of A needs 2 kg of material and 3 manhours, whereas each unit of B needs 4 kg of material and 3 manhours. Formulate LPP to find optimal level of A and B to be manufactured.

8. The following are the annual profits, in thousands of rupees, in a certain business :

Year	2016	2017	2018	2019	2020	2021	2022
Profits (in Rs.'000)	60	72	75	65	80	85	95

a) Use the method of Least Squares to fit a straight line to the above data.

b) Also make an estimate of the profits for the year 2028.

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9. Calculate the two regression equations of X on Y and Y on X from the data given below, taking deviations from actual means of X and Y.

Price (in Rs.)	10	12	13	12	16	15
Amount demanded (Rs.)	40	38	43	45	37	43

Estimate the likely demand when the price is Rs.20.

10. State the differences between Correlation and Regression.

11. Briefly explain the Methods of construction of Index Numbers.

PART - C

Answer any Two questions. Each question carries 15 marks. **(2×15=30)**

12. What is primary data? Explain the methods of collecting primary data.

13. Briefly explain the different types of matrices with example.

14. From the following data calculate price index numbers for 2023 with 2022 as base by (1) Laspeyre's method (2) Fisher's ideal method.

Commodity	2022		2023	
	Price	Quantity	Price	Quantity
A	20	60	40	6
B	50	80	60	5
C	40	92	50	15
D	20	45	20	25

15. Calculate the Mean, Median and Mode from the following data.

Age	No. of persons
20-25	7
25-30	13
30-35	15
35-40	20
40-45	30
45-50	33
50-55	28
55-60	14

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