

Exam. Code : 103202

Subject Code : 1034

B.A./B.Sc. 2nd Semester

QUANTITATIVE TECHNIQUES-II

Time Allowed—3 Hours]

[Maximum Marks—100

Note :— Attempt five questions selecting at least one question from each section.

SECTION-A

1. (a) Explain significance and limitations of statistics.
(b) Discuss the objectives and advantages of classification. 10,10
2. Discuss the various types of graphical representation of data. 20

SECTION-B

3. (a) The mean annual salaries paid to 1000 employees of a company were Rs. 5,000. The mean annual salaries paid to male and female employees were Rs. 5,200 and Rs. 4,200. Determine the percentage of male and female employed by the company.
(b) Find the median from the following data :

Mid value :	2.5	7.5	12.5	17.5	22.5
Frequency :	7	18	25	30	20

10,10

2530(2519)/EBH-19492

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(Contd.)

4. (a) From the prices of shares of X and Y given below, find out 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

- (b) Calculate the coefficient of kurtosis from the following data :

Marks :	60-	63-	66-	69-	72-
	62	65	68	71	74
No. of students :	5	18	42	27	8

10,10

SECTION-C

5. (a) Find Karl Pearson's correlation coefficient between age and playing habit of the following students :

Age :	15	16	17	18	19	20
No. of Students :	250	200	150	120	100	80
Regular Player :	200	150	90	48	30	16

- (b) Obtain the rank correlation coefficient from the following data :

X :	50	55	65	50	55	60	50	65	70	75
Y :	110	110	115	125	140	115	130	120	115	160

10,10

6. (a) What is regression line ? Why are there generally two regression lines ?
- (b) In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible :

$$\text{Variance of } x = 9$$

Regression equations

$$8x - 10y + 66 = 0$$

$$40x - 18y = 214$$

Find on the basis of the above information :

- (i) The mean values of x and y .
- (ii) The coefficient of correlation between x and y .
- (iii) S.D. of Y . 10,10

SECTION—D

7. (a) Describe briefly the problems faced in the construction of an Index number of prices.

- (b) Construct a Fisher's Ideal Index of price from the following data and show that it satisfies time reversal and factor reversal tests.

Items	2015		2016	
	Price	Qty.	Price	Qty.
A	10	40	12	45
B	11	50	11	52
C	14	30	17	30
D	8	28	10	29
E	12	15	13	20
				10,10

8. (a) Explain the various methods of determining trend in a time series.
- (b) Below are given the figures of production (in thousand quintals) of a sugar factory. Fit a straight line trend and find the trend values.

Years	Productions
2007	80
2008	90
2009	92
2010	83
2011	94
2012	99
2013	92
	10,10