

[Time:2.30 Hrs]

[Marks:75]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate full marks.

Q.1 Attempt any four of the following:**20**

- A Draw a histogram for the following data:

Income(in hundreds)	200-300	300-400	400-500	500-600	600-700
No. of families	27	30	45	25	18

- B Calculate the mean for the following data:

Class-Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	15	24	18	8	7

- C Calculate Median for the following data:

Marks	0-5	5-10	10-15	15-20	20-25
No. of students	20	22	32	20	26

- D Calculate Mode for the following data:

Amount (Rs. in thousand)	10-20	20-30	30-40	40-50	50-60	60-70
Customers	10	12	18	15	20	16

- E Calculate the standard deviation for the following data:

Reduction	0-20	20-40	40-60	60-80	80-100
No. of Persons	8	12	10	25	5

- F Explain merits and demerits of Median.

Q.2 Attempt any four of the following:**20**

- A Find the first four moments about the mean for the following frequency distribution:

x	2	3	5	6	8
f	5	2	5	10	8

- B Find Karl Pearson's coefficient of Skewness for 4, 5, 3, 5, 5.

- C Plot scatter graph and comment for the following data:

x	56	45	32	22	12
y	12	15	32	35	45

- D Find Karl Pearson's coefficient of correlation for the following data:

x	3	5	8	9	12	
y	12	15	32	35	45	

- E Find Spearman's Rank coefficient of correlation for the following data:

x	1	2	3	4	5	
y	2	3	1	5	4	

- F Find the regression equation for the following data:

Expenses	40	40	30	50
Profit	50	60	40	50

Q.3 Attempt any four of the following:

20

- A Define the following terms:
a.) Experiment b.) Sample space c.) Outcome d.) Sample point e.) Permutation
- B Find the values of: a.) $6p_2$ and b.) $9p_7$
- C How many ways are there for eight men and five women to stand in a row so that no two women stand next to each other.
- D How many different 5-letters word can be formed with the letters of the word 'DELHI' such that no letter can be repeated.(meaning does not matter).
- E In how many ways can a committee of 3 officers and 2 clerks can be made from 5 officers and 7 clerks.
- F An urn contains 8 blue balls, 7 green balls and 5 red balls. One ball is drawn at random, what is the probability that it is (a) a red ball, (b) a blue ball.

Q.4 Attempt any three of the following:

15

- A Following data gives marks scored by students in a test of 10 marks. Prepare frequency distribution table.
2, 4, 8, 6, 3, 4, 5, 4, 8, 6, 5, 3, 2, 0, 3, 5, 8, 9, 8, 3.
- B Find coefficient of variation of 2, 5, 4, 1 and 3.
- C Explain merits and demerits of scatter graph.
- D Write properties of Karl Pearson's coefficient of correlation.
- E Find the probability that a single toss of die will result in a number less than 4 if it is given that the toss resulted in an odd number.
- F Define event and explain its types.