

Q.P. Code: 00005482

[Time:2.30 Hrs.]

[Marks:75]

Please check whether you have got the right question paper.

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

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

- A Find median for the following data:

X	10	12	14	16	18
f	210	223	245	268	213

- B Find mode for the following data.

X	0 - 100	100 - 200	200 - 300	300 - 400	400 - 500
f	123	145	180	162	121

- C Find Standard Deviation of

X	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	5	4	8	9	4	5	3

- D Find Combined Standard deviation

	Group 1	Group 2
No of Observation	32	25
Mean	12	14
Standard Deviation	3	4

- E Find arithmetic mean of

C.I.	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60
f	4	5	11	6	5	8	9	6	4

- F Find mode if median is 54 and mean is 62.

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

- A Find first two raw moments for the following data:

x	2	3	4	5
f	12	15	18	15

- B Define Kurtosis and explain its types.

- C Find Karl Pearson's Coefficient of Skewness for 4, 5, 3, 5, 5.

- D Find Spearman's Rank Correlation

R1	1	2	3	4	5
R2	4	3	1	2	5

- E Find Regression Coefficient y on x for the following data.

x	2	3	4	6	9
y	13	24	54	65	72

F Find Karl Pearson's Coefficient of correlation

X	5	16	3	22	1
Y	12	15	32	35	45

Q.3 Attempt any four of the following:

20

- A 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?
- B One card is drawn at random from a pack of cards. What is the probability that it is a King or a Queen?
- C 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.
- D Given an equiprobable sample space $S = \{0, 1, 2, 3, 4, 5, 6, 7, 8\}$ and an event $A = \{0, 4, 7\}$. Find $P(A)$ and $P(\bar{A})$.
- 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 The Board of Directors of a company wants to form a quality management committee to monitor quality of their products. The company has 5 scientists, 4 engineers and 6 accountants. Find the probability that the committee will have 2 scientists, 1 engineer and 2 accountants.

Q.4 Attempt any three of the following:

15

A State Merits and Demerits of Mode.

B Find median for the following data:

x	1	2	3	4	5
f	20	12	25	23	30

C Find the regression equation for the following data set and hence estimate Y for X = 10

x	1	3	4	6	9
y	25	18	12	5	1

D State the Merits and Demerits of Coefficient of Correlation.

E Nine tickets are marked numbers 1 to 9. One ticket is drawn at random. What is the probability that the number is an odd number?

F What is the probability of getting a sum nine (9) when two dice are thrown?
