

- Note: 1. All questions are **compulsory**  
 2. All questions carry **equal** marks  
 3. Draw **neat, labelled diagrams** wherever necessary  
 4. Scientific calculator is allowed

**Q.1) Attempt the following (Any Four)**

**(20M)**

- a) Calculate first and second Quartile for the following data

Wages in Rs.	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
No. of workers	12	28	36	50	25	18	16	10	5

- b) Draw a Histogram for the following data.

Expenditure	20-30	30-40	40-50	50-60	60-70
No. of families	14	23	27	21	15

- c) Calculate D4 and P35 for the following data

70, 75, 80, 73, 75, 76, 71, 73, 72

- d) Calculate Mode for following data.

Sales in Rs.	100-200	200-300	300-400	400-500	500-600
No. of Shops	12	21	27	13	7

- e) Calculate Median for the following data

Height in cms	145-150	150-155	155-160	160-165	165-170	170-175	175-180
No of students	2	5	9	15	16	7	5

- f) Write a short note on Data classification.

**Q.2) Attempt the following (Any Four)**

**(20M)**

- a) Calculate Quartile deviation and coefficient of Quartile deviation for the data  
 66, 32, 36, 40, 43, 46, 48, 50, 52, 54, 48

- b) Calculate Mean deviation from mean for the following data .

Class Interval	5-15	15-25	25-35	35-45	45-55
Frequency	4	6	20	15	5

- c) Calculate standard deviation and coefficient of variation for the following data.  
 21, 16, 13, 11, 9, 14, 8, 14

- d) Define Kurtosis of frequency distribution with all it's types.

- e) Calculate Karl-Pearson's coefficient of skewness for the following set of observation  
 15, 16, 21, 15, 20, 16, 19, 16, 13, 14, 16

- f) Find first four moments about the value 20 for the set of observation 23, 20, 19, 22, 19.

**Q.3) Attempt the following (Any Four)**

**(20M)**

- Give differentiation between correlation and Regression.
- What is correlation. Give all properties of Correlation Coefficient.
- Calculate Spearman's Rank Coefficient of correlation for the following data.

Rank in A	7	6	2	4	5	3	1	8
Rank in B	5	4	6	3	8	2	1	7

- Calculate Karl-Pearson's Coefficient of correlation for the following data.

X	10	12	14	18	20	16
y	20	25	30	35	25	20

- Fit regression line of y on x for the following data

X	3	4	6	8	11
y	12	18	10	14	16

- Explain Scatter diagram representation of Correlation.

**Q.4) Attempt the following (Any Five)**

**(15M)**

- Explain all types of Skewness for frequency distribution.
- Explain the term Regression with proper example
- Explain any three types of Scales of measurement
- Explain all types of Regression.
- Define variable and types of variable.
- Calculate range and coefficient of range for the data 13,10,17,18,35,40,17

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