

"Section-B"**Marks: 40****Q.2. Attempt any ten (10) of the following parts. All parts carry equal marks.**

- (i) Explain continuous and discrete variables with examples.
- (ii) Discuss two methods used for the collection of primary data.
- (iii) For a skewed distribution median = 36, mean = 40.5. What will be the value of mode?
- (iv) Describe the important properties of arithmetic mean.
- (v) Explain absolute and relative measures of dispersion.
- (vi) First four moments about mean are 0, 8.53, 0.55 and 193.54. Find b_1 and b_2
- (vii) Explain the terms: (i) Positive Correlation (ii) Negative Correlation
- (viii) If $b_{y \cdot x} = 0.27$ and $b_{x \cdot y} = 0.6$. Find the coefficient of correlation.
- (ix) Describe the terms: (i) Cyclical variations (ii) Irregular variations
- (x) Explain the method of moving average for measuring the secular trend.
- (xi) Describe the terms: (i) Sex ratio (ii) Vital index
- (xii) Differentiate between gross reproduction rate and net reproduction rate.
- (xiii) Define interpolation. What are the uses of interpolation?

"Section-C"**Marks: 20****Note: - Attempt any two (2) questions. All questions carry equal marks.****Q.3. Calculate mean and mode from the following data:**

Marks	10 – 25	25 – 40	40 – 55	55 – 70	70 – 85	85 – 100
Frequency	6	20	44	26	3	1

Q.4. Fit a regression equation of food poisoning (y) on pesticides (x) for the following data:

Pesticides (x)	17	15	13	16	6	11	14	9	7	12
Food Poisoning (y)	36	35	46	24	12	18	27	22	2	8

Q.5. Find the value of $f(5)$ using Newton's formula of interpolation to the following data:

x	2	4	6	8	10
$f(x)$	25	32	41	49	58

Note: - Attempt all questions.

Q.1. Compute mean deviation from the following data using (i) mean (ii) median. (10)

Class	118 – 126	127 – 135	136 – 144	145 – 153	154 – 162	163 – 171	172 – 180
Frequenc	3	6	8	11	6	3	3

Q.2. Construct Fisher's ideal index number from the following data for 1955 taking 1948 as base year. (10)

Commodities	1948		1955	
	Price	Quantity	Price	Quantity
Rice	9	100	10	110
Maize	6	11	8	19
Wheat	5	5	7	6

Compute:

(i) The regression equation of y on x.

(ii) Correlation coefficient.

Note Book and viva voce.

(5)