



Date: 05-05-2025

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 PM

SECTION A

Answer ANY FOUR of the following

(4 x 10 = 40 Marks)

1. Calculate the mean, median and mode from the following data:

C.I	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
F	4	7	12	6	5

2. Calculate the quartile deviation for the following data:

X	20	23	24	25	26	30
F	6	10	7	4	5	3

3. Define time series. Explain the importance of analysis of time series.
4. Explain skewness and its types in detail along with formulas.
5. The Karl Pearson's coefficient of skewness of a distribution is 0.32. The S.D. is 6.5 and Mean is 29. Find Mode.
6. From the following data, calculate 3 yearly moving averages.

Year	2000	2001	2002	2003	2004	2002
Sugar production	50	52	59	62	45	67
Year	2003	2004	2005	2006		
Sugar production	69	72	78	84		

7. What are kurtosis and explain its types in detail.
8. Calculate the Mean Deviation about the mean for the following data:

X	2	3	4	5	6	7
f	1	5	8	4	2	1

SECTION B

Answer ANY THREE of the following

3 x 20 = 60 Marks

9. Find Bowley's coefficient of skewness for the frequency distribution.

No. of Children's	0	1	2	3	4	5
No. of Families	7	10	16	25	18	11

10. Calculate rank correlation coefficient from the data given below:

X	52	63	45	36	72	65
Y	62	53	51	25	79	43
X	47	25				
Y	60	33				

11. Fit a straight-line trend using the method of least squares and find the trend values.

Year	2018	2019	2020	2021	2022	2023
Values	20	23	25	28	34	37

12. In the following Figure-scale. The income on 10 persons (in Rs.) are given.

Find S.D and its Coefficient.

227,235,255,269,292,299,312,321,333,348.

13. Explain about correlation and regression and differentiate both in detail.

14. Elucidate characteristic of operation research.
