

B.Com.

Subject: BUSINESS MATHEMATICS AND STATISTICS

Fifth Paper (C - 15 - G)

F.M. - 50

(Module - I)

Group - A

Answer any one question

5

1. If ${}^nC_2 = 28$, find the value of n .
2. Find the Mode of the following numbers: 4, 3, 2, 5, 3, 4, 5, 1, 7, 3, 2, 1.
3. Define Null Set with example.

Group - B

Answer any two questions

2 × 10

4. Show that $\log_2 \log_2 \log_2 16 = 1$.
5. In the expansion of $\left(x - \frac{1}{x}\right)^{20}$, find the eleventh term.
6. Draw a Pie chart of the following data:

Types of commodity	Family Expenditure (Rs.)
Food	3,000
Clothes	1,250
House Rent	2,000
Education	1,100
Savings	750
Misc.	900

7. The A.M. of 25 observations is 44. Later it was found that two of the observations 34 and 46 were wrongly copied as 28 and 42. Find the correct A.M.

(Module - II)

Group - C

Answer any one question

5

8. If $Q_1 = 52, Q_2 = 92$ and $Q_3 = 152$, find skewness.
9. If two regression equations are $8x - 10y + 66 = 0$ and $40x - 18y = 214$, find \bar{x}, \bar{y} .
10. Write Newton's Backward Interpolation formula.

Group - D

Answer any two questions

2 × 10

11. Compute standard deviation from the following data:

Profit (lakh Rs.)	:	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
No. of companies	:	7	15	26	12	3

12. Fit a linear trend equation to the following data:

Year	:	2008	2009	2010	2011	2012	2013	2014
Production ('000 ton)	:	17	23	30	39	43	51	58

Hence estimate the production for the year 2015.

13. With the help of following data, show that Fisher's Ideal Index formula satisfy Factor Reversal Test.

Commodity	Price (Rs.) (per unit)		Unit number	
	Base year	Current year	Base year	Current year
A	6	10	50	56
B	2	2	100	120
C	4	6	60	60
D	10	12	30	24
E	8	12	40	36

14. Using appropriate interpolation formula, find the value of y for $x = 2$ from the following table:

x	:	1	3	5	7	9
y	:	3	5	8	12	17