



M 10262

Reg. No. :

Name :

**II Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.M./B.C.A./B.S.W.
(CCSS-Regular/Supplementary/Improvement) Degree Examination, March 2011
STATISTICS (Core Course)
2B02STA : Descriptive Statistics**

Time : 3 Hours

Max. Weightage : 30

Instruction : Use of calculators and tables are permitted.

PART – A

Answer **any 10** questions : **(Weightage 1)**

1. Weighted average in a special case of simple average. Illustrate with an example.
2. What is Kurtosis ? Illustrate with a diagram.
3. Explain the principle of least squares.
4. Give an expression of regression coefficient and hence find the expression for correlation coefficient.
5. Write down the formula for multiple correlation coefficient in terms of simple correlation coefficient and explain the notations.
6. What are additive and multiplicative models of time series ?
7. Give two practical applications of time series with examples.
8. What are price relatives ? How are they used to find index numbers ?
9. With usual notation give the formula of Laspeyres's index number. Also explain the notation.
10. Distinguish between raw and central moments.
11. Explain the circular test of an index number.

P.T.O.



PART – B

Answer **any 6** questions.

(Weightage 2)

12. Explain mean, median and mode with appropriate examples. Can we use mean and mode for the same data to find a measure of central tendency ?
13. How will you fit a straight line of the form $y = ax + b$ to a give set of bivariate data ?
14. If $5y = 3x - 5$ and $3y - 5x - 2 = 0$ are respectively the regression equations of y on x and x on y respectively. Find the correlation coefficient and the means of x and y .
15. What are the merits and demerits of a good measure of central tendency ?
16. What is the difference between partial and multiple correlation ? Explain with examples.
17. What is trend ? Explain the method of moving averages for measuring trend.
18. What the different steps in the construction of a cost of living index number ?
19. What is coefficient of variation ? Give its use.
20. Examine whether Fisher's ideal index number satisfies factor reversal and time reversal test.

PART – C

Answer **any 2** questions :

(Weightage : 4 each)

21. Find the median age for the following age distribution of persons in a particular region.

Age in Years	0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80
No. of Persons	2	5	9	12	14	15	15.5	15.6.

22. Find the centred 4 yearly moving average for the following data of time series :

Year	1950	51	52	53	54	55	56	57
Production	30.1	45.4	39.3	41.4	42.2	46.4	46.6	49.2



23. The following table shows the mean and S.D. of the prices of two shares in Delhi Stock Exchange :

Share	Mean	S.D.
A	Rs. 39.50	Rs. 10.8
B	Rs. 47.50	Rs. 16.8

If $\gamma_{AB} = 0.42$, find likely price of A if the price of B observed is Rs. 55.

24. Calculate the Fisher's ideal index number for the following data :

Commodity	1980		1990	
	Price	Quantity	Price	Quantity
A	5	50	6	54
B	8	16	8	20
C	3	30	4	32
D	10	40	12	60
E	12	60	15	96