DE–1233 **23**

DISTANCE EDUCATION

B.C.S. DEGREE EXAMINATION, MAY 2011.

BUSINESS STATISTICS

(1999 onwards)

Time : Three hours Maximum : 100 marks

SECTION A — ($5 \times 8 = 40$ marks)

Answer any FIVE questions.

All questions carry equal marks.

1. Calculate mean from the following :

X :	10-20	20-30	30-40	40-50	50-60	60-70
F :	14	23	18	30	25	32

2 Calculate Geometric mean from the following :

50 72 54 82 93 102.

3 Calculate mean deviation from the following :

X :	2	4	6	8	10
F :	5	6	8	9	7

4 Calculate standard deviation from the following :

14, 22, 9, 15, 20, 17, 12, 11.

5 Find the Karl Pearson's coefficient of skewness for the following distribution :

Marks :	0-10	10-20	20-30	30-40	40-50
No. of students :	5	8	15	16	6

6 Find the rank correlation coefficient from the following data :

Rank in X :	1	2	3	4	5	6	7
Rank in Y :	4	3	1	2	6	5	7

7 Calculate coefficient of quartile deviation and coefficient of variation from the following data :

Marks :	Below 20	Below 40	Below 60	Below 80	Below 100

No. of students :	8	20	50	70	80

8 Calculate standard deviation from the following data :

X :	0	1	2	3	4	5	6	7
F :	14	21	25	43	51	12	16	23

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions.

All questions carry equal marks.

9 Obtain the lines of regression for the following data :

X :	1	2	3	4	5	6	7
Y :	9	8	10	12	11	13	14

10 The marks scored by two candidates in computer science tests are given below :

A :	59	58	60	54	65	66	52
B :	87	89	78	71	73	84	56

(a) Who is the better scorer A or B?

(b) Who is more consistent?

11 Calculate the Pearson's coefficient of correlation from the following data :

X :	43	44	46	40	44	42	45	42	38	40	42	57
Y :	29	31	19	18	19	27	27	29	41	30	26	10

12 With the help of the following data prove that Fisher's Ideal Index satisfies both the time reversal test and factor reversal test :

Commodity	1980		1982	
	Price	Value	Price	Value
A	5	50	6	72
B	7	84	10	80
C	10	80	12	96
D	4	20	5	30
E	8	56	8	64

13 The following figures give the annual production of a commodity :

Year :	1995	1996	1997	1998	1999	2000	2001
Production ('000 tons) :	34	19	23	26	46	42	67

Estimate the production in 2008.

14 Find out the variance for the given distribution :

X :	0-5	5-10	10-15	15-20	20-25	25-30	3-35
F :	2	5	7	13	21	16	8

15 Calculate Bowley's coefficient of skewness from the following series :

Marks :	0-5	5-10	10-15	15-20	20-25
No. of students :	10	16	18	26	29