

DISTANCE EDUCATION

B.C.S. DEGREE EXAMINATION, MAY 2009.

BUSINESS STATISTICS

(1999 onwards)

Time : Three hours

Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE questions.

1. Explain the different stages in a statistical investigation.
2. What are the important sources of “Collection of data”?
3. Briefly explain the classification of data.
4. What are the properties of good average?
5. The following are the figures of profits earned by 1,400 companies during 1999-2000.

Profits (in lakhs)	No. of companies
200–400	500
400–600	300
600–800	280
800–1,000	120
1,000–1,200	100
1,200–1,400	80
1,400–1,600	20

Calculate the average profits by short-cut methods.

6. Find the median

Wages (Rs.) :	60–70	50–60	40–50	30–40	20–30
No. of labourers :	5	10	20	5	3

7. The following are the group index numbers and the group weights of an average working class family's budget. Construct the cost of living index number :

Group	Food	Fuel & Lighting	Clothing	Rent	Miscellaneous
Index number	352	220	230	160	190
Weight	48	10	8	12	15

8. Compute quartile deviation from the following data.

Height in inches :	58	59	60	61	62	63	64	65	66
No. of students :	15	20	32	35	33	22	20	10	8

PART B — ($4 \times 15 = 60$ marks)

Answer any FOUR questions.

All questions carry equal marks.

9. Explain briefly the types of non-random sampling methods.

10. Explain the methods of constructing index numbers.

11. Distinguish between primary data and secondary data. What are the precautions necessary before using secondary data?

12. From the following data compute standard deviation :

Class Interval :	0–100	100–200	200–300	300–400	400–500	Above 500
Frequency :	17	13	29	11	50	120

13. Calculate mean, median and mode for the following data pertaining to marks in statistics out of 140 marks for 80 students in a class :

Marks more than :	0	20	40	60	80	100	120
No. of students :	80	76	50	28	18	9	3

14. The following data relate to the age of 10 employees and the number of days on which they reported sick in a month :

Age :	20	30	32	35	40	46	52	55	58	62
Sick days :	1	2	0	3	4	6	5	7	8	9

Calculate Karl Pearson's coefficient of correlation and interpret its value.

15. In the following table are recorded data showing the test scores made by salesmen on an intelligence test and their weekly sales :

Salesmen :	1	2	3	4	5	6	7	8	9	10
Test score :	40	70	50	60	80	50	90	40	60	60
Sales ('000 Rs.) :	2.5	6.0	4.0	5.0	4.0	2.5	5.5	3.0	4.5	3.0

Calculate the regression equation of sales on test scores and estimate the probable weekly sales volume if a salesman makes a score of 100.
