**DE–2336** **23**

DISTANCE EDUCATION

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

BUSINESS STATISTICS

(1999 onwards)

Time : Three hours Maximum : 100 marks

PART A — ($5 \times 8 = 40$ marks)

Answer any FIVE questions.

All questions carry equal marks.

1. Distinguish between Primary data and Secondary data.
2. Describe the uses of diagrammatic representation.
3. Construct a frequency distribution table with a class interval of 5 for the marks obtained by 25 students.

   60 65 50 65 35 40 30 35 40 45 50 45 35

   45 35 35 25 40 50 55 40 35 33 40 45
4. Define central tendency and state its characteristics. What are the uses of median and mode?
5. Find the Harmonic mean from the following data.

| Class boundaries : | 15–25 | 25–35 | 35–45 | 45–55 | 55–65 | 65–75 |
|---|---|---|---|---|---|---|
| Frequency : | 4 | 11 | 19 | 14 | 0 | 2 |

6. Two judges in a beauty contest rank the 12 entries as follows :

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *X* : | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| *Y* : | 12 | 9 | 6 | 10 | 3 | 5 | 4 | 7 | 8 | 2 | 11 | 1 |

Compute the rank correlation between the two.

7. What is meant by analysis of time series? What is its main aim?
8. Construct the cost of living index number from the table given below :

| Group | Index | Weight |
|---|---|---|
| Food | 352 | 48 |
| Fuel | 220 | 10 |
| Clothing | 230 | 8 |
| Rent | 160 | 12 |
| Miscellaneous | 190 | 15 |

PART B — ($4 \times 15 = 60$ marks)

Answer any FOUR questions.

All questions carry equal marks.

9. Discuss the characteristics and limitations of statistics.
10. Draw a histogram, frequency polygon and frequency curve representing the following data

| Length of Leaves : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---|---|---|---|---|---|---|---|
| Number of Leaves : | 5 | 12 | 25 | 48 | 32 | 6 | 1 |

11. For the following data calculate standard deviation

| Class interval : | 5-15 | 15-25 | 25-35 | 35-45 | 45-55 |
|---|---|---|---|---|---|
| Frequency : | 8 | 12 | 15 | 9 | 6 |

12. Calculate arithmetic mean, median and mode for the following data :

| Age : | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 |
|---|---|---|---|---|---|---|---|---|
| Frequency : | 50 | 70 | 80 | 180 | 150 | 120 | 70 | 50 |

13. Fit two regression lines from the following data of Demand (*X*) and Supply (*Y*).

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *X* : | 61 | 72 | 73 | 73 | 63 | 84 | 80 | 66 | 76 | 74 | 72 |
| *Y* : | 40 | 52 | 59 | 53 | 61 | 58 | 56 | 42 | 58 | 50 | 50 |

14. Find the coefficient of the correlation for the following :

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cost : | 39 | 65 | 62 | 90 | 82 | 75 | 25 | 98 | 36 | 78 |
| Sales : | 47 | 53 | 58 | 86 | 62 | 68 | 60 | 91 | 51 | 84 |

15. Fit a straight line trend by the method of least square to the following data relating to the net profits of a purchase concern.

| Year : | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|
| Profits (Rs.) : | 300 | 700 | 600 | 800 | 900 | 700 | 1000 |

———————