## Subject Code—2169

# B.B.A. (Second Year) EXAMINATION

## (New Scheme)

## BBA-202

## BUSINESS STATISTICS

*Time : 3 Hours*                    *Maximum Marks :* 100

**Note** : Attempt any *Five* questions. All questions carry equal marks.

1. Discuss the meaning and functions of Statistics.

2. Calculate the values of arithmetic mean, median, mode and standard deviation for the following distribution :

| Marks | No. of Students |
|-------|-----------------|
| 0–10  | 35              |
| 10–20 | 42              |
| 20–30 | 67              |

| | |
|---|---|
| 30–40 | 105 |
| 40–50 | 125 |
| 50–60 | 60 |
| 60–70 | 42 |
| 70–80 | 24 |

3. Differentiate among dispersion, skewness and kurtosis. How is Kurtosis measured ? Explain using a hypothetical example.

4. (a) What are the advantages of studying correlation ?

    (b) Why are there two equations in regression analysis ?

    (c) Explain the meaning and applications of rank correlation.

5. Develop the two regression equations for the following series :

| X | Y |
|---|---|
| 130 | 60 |
| 128 | 65 |
| 135 | 62 |

| | |
|---|---|
| 140 | 68 |
| 146 | 74 |
| 125 | 88 |
| 136 | 64 |
| 147 | 58 |
| 122 | 80 |
| 118 | 100 |
| 130 | 90 |
| 150 | 76 |

Also calculate the co-efficient of Correlation between X and Y.

6. Why are index numbers called economic barometers ? What are the key issues in constructing index numbers ? How is cost of living index constructed ?

7. Calculate bend values for the following time series, taking 3 years moving average period :

| Year | Sales (000' Rs.) |
|---|---|
| 1986 | 125 |
| 1987 | 130 |

| | |
|---|---|
| 1988 | 145 |
| 1989 | 120 |
| 1990 | 115 |
| 1991 | 112 |
| 1992 | 130 |
| 1993 | 140 |
| 1994 | 160 |
| 1995 | 162 |
| 1996 | 180 |
| 1997 | 158 |
| 1998 | 154 |
| 1999 | 170 |
| 2000 | 190 |

8. Why is Random Sampling considered better then non-random sampling ? Discuss in detail the lottery method and multistage sampling method for selecting a random sample.

9. Construct price and quantity index numbers. Using Laskeyer's, Paasches and Fisher's method for the following table :

| Commodity | $p_0$ | $p_1$ | $q_0$ | $q_1$ |
|-----------|-------|-------|-------|-------|
| A | 12 | 18 | 40 | 40 |
| B | 60 | 64 | 100 | 120 |
| C | 30 | 36 | 72 | 64 |
| D | 45 | 48 | 120 | 132 |

Which of the methods satisfy factor reversal test ?

10. (a) A bag contains 6 red, 4 white and 2 green balls. Two balls are drawn without replacement. Find the probability of drawings (i) two red balls, (ii) one white and one green ball and (iii) no red ball.

(b) Eight coins were tossed simultaneously 256 times. Fit a Binomial distribution for the expected frequencies.