# BCOM 2002/BBA 2002

B.Com./B.B.A. DEGREE EXAMINATION,
JANUARY 2021.

Second Year – Non Semester

BUSINESS STATISTICS

Time : Three hours Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE out of eight questions.

1. State the importance and limitations of Business Statistics.

2. Write down the merits and demerits of Arithmetic mean.

3. Calculate the mean deviation and coefficient of mean deviation for the following distribution.

| Marks | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 |
|---|---|---|---|---|---|---|---|
| No. of students | 4 | 12 | 18 | 28 | 19 | 14 | 5 |

4. Write a short-note on the Time series analysis.

5. Distinguish between Correlation and Regression.

6. Analyze the uses of regression analysis in business decisions.

7. Differentiate between Geometric mean and Harmonic mean.

8. Eight countries were ranked by two directors of a company seeking to expand its activities in the foreign markets in terms of their sales potential. Determine to what extent is the assessment of the two directors agreed.

| Country | | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|---|
| Ranking by | Director 1 : | 7 | 5 | 1 | 8 | 2 | 4 | 3 | 6 |
| | Director 2 : | 4 | 6 | 3 | 5 | 2 | 7 | 1 | 8 |

PART B — (4 × 15 = 60 marks)

Answer any FOUR out of six questions.

9. Describe the role of Statistics in business decisions.

10. Critically evaluate the methods of Probability and Non-Probability Sampling Techniques.

11. A company conducted a survey in the past and found that the average income of an individual in a particular region is Rs.25,000 per year. After a few years, the company feels that this average income may have changed. For verifying this, the company officers have taken a random sample of size 50 and found that the sample mean is Rs.40,000 with a standard deviation of Rs.15.000. Use $\alpha$ = 0.05 and hypothesis testing procedure to determine whether the average income of an individual has changed.

12. Evaluate the methods of business forecasting.

13. Critically analyze Bayes Rule.

14. A dealer of a motorcycle company believes that there is a positive relationship between the number of sales people employed and increase in the sale of bikes. Data for 10 randomly selected weeks are given in the following table.

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of sales people employed | 17 | 14 | 25 | 40 | 15 | 18 | 13 | 11 | 27 | 38 |
| Sales (in units) | 34 | 39 | 60 | 80 | 38 | 50 | 35 | 25 | 51 | 89 |

(a) Develop a regression model to predict sales from the number of sales people employed

(b) Predict sales when number of sales people employed are 50.

---