A–0770

Total Pages : 4 **Roll No. .....**

BBA-302

Bachelor of Business Administration (BBA)

(Business Statistics)

Examination, June 2025

Time : 2:00 Hrs. Max. Marks : 70

Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section–A

(Long Answer Type Questions) 2×19=38

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Given the following data on the number of units sold by a company in 20 different regions :

   15, 20, 22, 18, 25, 30, 20, 35, 40, 18, 15,

   25, 30, 22, 28, 32, 24, 18, 30, 28.

   Construct a frequency distribution table with a class interval of 5 units. Draw a histogram to represent this data.

2. Fit a simple linear regression line $Y = a + bX$ for the following data on advertising expenditure (X, in thousands) and sales (Y, in thousands) :

X	Y
5	50
10	60
15	65
20	70
25	80

   Also, use the regression equation to predict the sales if the advertising expenditure is 18000.

3. Define index numbers and discuss their construction. Explain the methods for constructing simple and weighted price, quantity, and value index numbers.

4. Define the measures of central tendency–mean, median and mode. Derive the formulas for each and compare their characteristics, applications, and limitations.

5. Discuss in detail the geometric mean and harmonic mean. Derive the formulas for each and explain their applications and limitations.

Section–B

(Short Answer Type Questions) 4×8=32

***Note* :–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain the importance of business statistics in business decision-making.

2. Calculate the range and quartile deviation for the following data on annual profits (in thousands) :

100, 120, 130, 150, 170, 180

3. Given the following sales data for five years : 200, 220, 250, 270, 300, calculate the growth rate in sales from year 1 to year 5.

4. What is a scatter diagram ? Explain how it is used to study correlation between two variables. Provide an example.

5. Define standard deviation and discuss its significance in measuring variability.

6. Define lines of regression and explain their significance in regression analysis. Provide an example of their use in business forecasting.

7. Given the following sales data for five years : 200, 220, 250, 270, 300, calculate the growth rate in sales from year 1 to year 5.

8. Define rank correlation. Explain how it differs from Pearson's correlation.

****