

9. Discuss the use of time series in business forecasting and its limitations. Also elaborate the components of a time series.

Roll No. ....

**57516**

**BBA 2nd Semester (N.S.) (Re-appear)**

**Examination – October, 2020**

**BUSINESS STATISTICS**

**Paper : BBAN-206**

*Time : 1.45 Hours ]*

*[ Maximum Marks : 80*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

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

1. (a) What is data tabulation ?
- (b) Illustrate pie-chart.
- (c) Why is median the most appropriate average for an open ended distribution ?
- (d) What are the merits and demerits of mode ?
- (e) What is partial correlation ?

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(f) If  $r_{xy} = 0.6$ ,  $b_{xy} = 0.45$  find  $b_{yx}$ .

(g) What is time reversal test ?

(h) Briefly discuss the characteristics of an index number.

2. Differentiate between classification and tabulation. Also discuss the objectives and types of data classification.

3. Using suitable examples, explain and illustrate the construction of :

(i) Histogram,

(ii) Sub-divided bar diagram,

(iii) Range graph and

(iv) One variable graph

4. Find the values of arithmetic mean, median, mode and  $Q_3$  for the following distribution :

| x | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 | 125-150 | 150-175 |
|---|------|-------|-------|--------|---------|---------|---------|
| f | 12   | 30    | 40    | 25     | 20      | 15      | 8       |

5. Why do we need to study measures of various measures of dispersion ? Discuss the calculation, merits and demerits of various measures of variation.

6. (a) Differentiate between correlation and regression.

(b) What are the properties of Karl Pearson's correlation co-efficient and regression co-efficients ?

7. Obtain the two regression equations for the following series :

|   |    |    |    |    |    |    |    |    |    |    |    |
|---|----|----|----|----|----|----|----|----|----|----|----|
| x | 40 | 46 | 54 | 60 | 70 | 80 | 82 | 85 | 85 | 90 | 95 |
| y | 45 | 45 | 50 | 53 | 40 | 75 | 55 | 76 | 65 | 42 | 70 |

8. Compute Laspeyre's Fisher's and Dorbish-Bowley's price index numbers for the following data :

| Commodity | $P_0$ | $Q_0$ | $P_1$ | $Q_1$ |
|-----------|-------|-------|-------|-------|
| A         | 7     | 50    | 7     | 60    |
| B         | 5     | 120   | 5     | 140   |
| C         | 11    | 30    | 10    | 20    |
| D         | 18    | 20    | 20    | 15    |

Also show that Fisher's index number satisfies factor reversal test.