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

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*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 ?

(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 Karle 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.