

Faculty of Business Management
BBA I-Year, CBCS-II Semester Regular Examinations -June/July, 2022
PAPER: Business Statistics

Time: 3 Hours

Max Marks: 80

Section-A

- I. Answer any *five* of the following (5x4=20 Marks)
1. Define Statistics and Write its limitations.
 2. Explain the three terms: Dispersion, Skewness and Kurtosis.
 3. What are different types of index numbers?
 4. What are the components of time series?
 5. Discuss Geometric mean. Discuss its merits and demerits.
 6. Find Mean if Median is 42.8 and Mode is 40.
 7. What factors are considered in determining the Sample size?
 8. What is Inertia of large numbers while dealing with sampling?

Section-B

- II. Answer the following questions (5x12=60 Marks)
9. (a) Explain the principles of measurement.
(OR)
(b).What is Statistical table? Explain various types of tabulation with examples.
 - 10.(a) Write about the need for Measures of Central Tendency? Discuss the standard measures of Central Tendency with its applications.
(OR)
(b) An analysis of the monthly wages paid to workers in two firms A and B, belonging to the same industry, gives the following results:

| | Firm - A | Firm-B |
|---|-------------|--------------|
| Number of Wages earners | 550 | 650 |
| Average monthly wages (in '00 Rs) | 50 | 45 |
| Standard deviation of the distribution of Wages | $\sqrt{90}$ | $\sqrt{120}$ |

Answer the following questions with proper justifications:

- i. Which firm A or B pays larger amount as monthly wages?
 - ii. In which firm A or B, is there greater variability in individual wages?
 - iii. What are the measures of Average monthly wages, Standard deviation in the distribution of individual wages of all workers in the two firms taken together?
11. (a) Explain how Index numbers are used to measure the purchasing power of money? Explain what do you understand by deflating of Index numbers with example?

(OR)

- (b). Calculate price index numbers from the following information using
i) weighted aggregative formula and ii) weighted arithmetic mean of price relatives

| Item | Unit | Price (Rs.) per unit | | Weight |
|------|---------|----------------------|--------------|--------|
| | | Base Year | Current Year | |
| A | quintal | 85 | 115 | 19 |
| B | Kg. | 15 | 15 | 25 |
| C | dozen | 45 | 61 | 40 |
| D | litre | 55 | 100 | 20 |
| E | Lb | 17 | 23 | 21 |

12. (a). Define probability. What is multiplication and addition theorem? Explain with suitable examples?

(OR)

- (b) A doctor is to visit a patient. From the past experience, it is known that the probabilities that he will come by Car, Taxi, Scooter or by other means of transport are 0.3, 0.2, 0.1 and 0.4 respectively. The probabilities that he will be late are $\frac{1}{4}$, $\frac{1}{3}$ and $\frac{1}{12}$, if he comes by Car, Taxi, Scooter respectively. But, if he comes by other means of transport, then he will not be late. When he arrives, he is late. What is the probability that he comes by Car?

13. (a) Define Correlation. Explain various types of Correlation with suitable Examples. State the application of Correlation in business.

(OR)

- (b) Calculate a five-year moving average from the following data set:

| Year | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------|------|------|------|------|------|------|------|------|
| Sales ('000) | 4 | 6 | 5 | 8 | 9 | 5 | 4 | 3 |
