

Total No. of Questions : 09

BBA (2013 to 2017)/BRDM/B.SIM (2014 & Onwards) (Sem.-3)

BUSINESS STATISTICS

Subject Code : BBA-304

Paper ID : [C1167]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTIONS-B consists of FOUR Sub-sections : Units-I, II, III & IV.**
3. **Each Sub-section contains TWO questions each, carrying TEN marks each.**
4. **Student has to attempt any ONE question from each Sub-section.**

SECTION-A

- 1. Answer briefly :**
- Types of data classification
 - A sample consists of 34 observations recorded to the nearest integer, ranging in value from 201 to 337. If it is decided to use seven classes of width 20 integers and to begin in the first class at 199.5, find the class limits and class marks of the seven classes.
 - Merits and limitations of arithmetic mean.
 - State the type of correlation (positive, negative or no correlation) for the following :
 - Sale of woolen garments and temperature.
 - Income and expenditure of household.
 - Height of student and marks obtained.
 - Total investment and rate of interest.
 - Standard error of estimate.
 - Problems in construction of index numbers.
 - Four uses of time series.
 - Dependent and independent events.
 - What is the probability of picking a card that was red or black?
 - State Bayes theorem.

SECTION-B

UNIT-I

- Explain various methods of collecting primary data and discuss relative merits and demerits.
- The scores of two batsman A and B in ten innings during a certain season are :

A: 32 28 47 63 71 39 10 60 96 14

B: 19 31 48 53 67 90 10 62 40 80

Find (using coefficient of variation) which of the two batsman, A or B, is more consistent in scoring.

UNIT-II

- The ranks of the same 15 students in two subjects A and B are given below. The two numbers within brackets denote the ranks of the same student in A and B respectively.

(1, 10), (2, 7), (3, 2), (4, 6), (5, 4), (6, 8), (7, 3), (10, 1), (9, 1), (10, 15), (11, 19), (12, 5), (13, 14), (14, 12), (15, 13).

Find the Spearman's rank correlation coefficient.

- Define regression. How is it different from correlation analysis? Discuss its utility in predicting future events.

UNIT-III

- What is an index number? Discuss the different tests of consistency used in selection of an appropriate index formula.
- Assume a four yearly cycle and calculate the trend by the method of moving averages from the following data relating to the production of tea in India :

Years	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Production	464	515	518	467	502	540	557	571	586	612

UNIT-IV

- A bag contains 5 white and 8 red balls. Two drawings of 3 balls are made such that
 - Balls are replaced before the second trial
 - Balls are not replaced before the second trial

Find the probability that the first drawing will give 3 white and the second 3 red balls in each case.

- In a bolt factory machines A, B and C manufacture respectively 25%, 35% and 40%. Of the total output 5, 4 and 2 percent are defective bolts. A bolt is drawn at random from the product and is found to be defective. What is the probability that it was manufactured by machines A, B and C?