647510 **BBA3BS0E0110** **Seat No :_____**

B.B.A. Semester - 3 (*CBCS*) Examination
Oct/Nov - 2023 (OLD COURSE)
BUSINESS STATISTICS(ELECTIVE 1)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1(A) Explain Scatter diagram method with merits and demerits. (07)

Que.1(B) Find Spearman's Rank correlation from the following data. (07)

X	68	64	75	50	64	80	75	40	55	64
Y	62	58	68	45	81	60	68	48	50	70

OR

Que.1(A) What is Correlation? Explain its types. (07)

Que.1(B) Find out Coefficient of Determination and Correlation coefficient from the following data. (07)

X	100	101	103	102	100	99	97	98
Y	98	99	99	97	95	92	95	94

Que.2(A) Give the properties of Regression coefficient. (07)

Que.2(B) If mean value of x = 30.4, mean value of y = 26.5, S_x = 6.4, S_y = 8.0, r = 0.56 find equation of two regression lines. (07)

OR

Que.2 Obtain Two regression lines from the following data. (14)

X / Y	90-100	100-110	110-120	120-130
50-55	4	7	5	2
55-60	6	10	7	4
60-65	6	12	10	7
65-70	3	8	6	3

Que.3(A) Define (07)

1. Sample Space
2. Independent event
3. Complement event
4. Mathematical Definition of probability

Que.3(B) What is the chance that a leap year selected at random will contain. (07)

(1) 53 Sundays (2) 53 Mondays, (3) 53 Sundays or Mondays

OR

Que.3(A) Write additional theorem for two events and prove it. (07)

Que.3(B) A coin is tossed 3 times, find the chance that. (07)

(1) head & tail will show alternatively
(2) head & tail will not show alternatively

Que.4(A) Give definitions. (07)

1. Random variable
2. Expected value
3. Variance of random variable
4. Probability distribution of random variable

Que.4(B) A die is tossed, find expected value of numbers on a die. (07)

OR

Que.4(A) Write properties of normal distribution. (07)

Que.4(B) The marks of students are normally distributed 20% get more than 80 marks and 10% gets less than 40 marks, find Mean and Standard deviation. (07)

Que.5(A) Write properties and uses of Binomial Distribution. (07)

Que.5(B) The probability of an albino child in a family is 0.25. find the expected frequencies of albino children in 192 families, each having three children. (07)

OR

Que.5(A) Write properties and uses of Poisson Distribution. (07)

Que.5(B) In one Hospital 3 percent of the patients demanded special rooms. On a Particular Day 3 special rooms were vacant. If 50 patients were admitted in the hospital on that day, find probabilities that (07)

(1) no patient demanded special rooms
(2) the demand of special room were not meet.

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