



RAN - 2008000204060001

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**B.Com (Honors) (Sem. IV) Examination April - 2025**

**Statistics - Business Statistics - II**

[ Total Marks: 50

સૂચના : / Instructions

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નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
Fill up strictly the details of signs on your answer book

Name of the Examination:  
B.Com (Honors) (Sem. IV)

Name of the Subject :  
Statistics - Business Statistics - II

Subject Code No.: 2008000204060001

Seat No.:

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Student's Signature
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- (2) All the questions are compulsory.
- (3) Figures to the right indicate full marks of questions.
- (4) Simple calculator can be used.
- (5) Statistical tables would be supplied on request.

**Q.1**

- a) What is correlation analysis? How it is different from regression? **4**
- b) The following table shows monthly wage and length of service (in years) of 7 persons. Obtain regression equation of monthly wage on the length of service. If person is having 12 years of service, find his expected monthly wage. **5**

Length of Service	11	7	9	5	8	6	10
Wage (in 100 Rs.)	7	5	3	2	6	4	8

- c) Using spearman's rank correlation method find coefficient of correlation **4**

X	66	40	35	75	65	80	35	20	85	65	55	33
Y	30	55	68	28	76	25	80	85	20	35	45	65

**Q.2**

- a) What is an index number? Discuss the problems faced while constructing an index number. 4
- b) From the data given below, calculate price index number using Fisher's ideal formula, show that it satisfies time and factor reversal tests. 6

Commodities	Base year		Current Year	
	Price	Quantity	Price	Quantity
A	15	4	10	6
B	20	3	25	4
C	10	6	20	5
D	30	5	25	5

- c) From the fixed base index numbers given below, prepare chain base index numbers. 3

Year	1990	1991	1992	1993	1994	1995
Fixed base Index	376	392	408	380	392	400

**Q.3**

- a) State the conditions under which binomial distribution tends to Poisson distribution. State properties of Poisson distribution. 4
- b) In an intelligence test administered to 1000 children the average score is 42 and s.d. is 24. Assuming that the scores are normally distributed find  
 (i) The number of children exceeding score 50 (ii) the number of children getting score between 30 and 54 (iii) the minimum score of the most intelligent 100 students. 5
- c) For a binomial variable X mean is 6 and variance is 4.2. Find parameters of the distribution. 3

**Q.4**

- a) What is sales forecasting? What are factors affecting sales of a product? 5
- b) Fit a second-degree parabola  $y = a + bx + cx^2$  to the following data: 7

Year (t)	2001	2002	2003	2004	2005	2006	2007
Output (tons) (Y)	100	107	128	140	181	192	200