

FACULTY OF COMMERCE

B. Com. (CBCS) IV Semester (New) Examination, June / July 2022
(Common Paper for General / Computer Applications / Advertising /
Business Analytics / Foreign Trade and Tax Procedure / Honours Courses)
Subject: Business Statistics – II

Paper – Code – BC – 302

Time: 3 Hours

Max. Marks: 80

PART – A

Note: Answer any five questions.

(5 x 4 = 20 Marks)

1. Importance of Regression Analysis.
2. State the Methods of Calculating Price Index Numbers.
3. Significance of Time Series Analysis.
4. In a college 400 students study Commerce and 300 members study Economics. If 200 students study both the subjects, find the total number of students enrolled into the college.
5. A student obtained the following answer to a certain problem given to him. Mean = 2.4 Variance = 3.2 for a Binomial Distribution. Comment on the result.
6. What are the properties of Regression Co-efficients?
7. Draw a trend line by the Method of Semi Averages.

Year	1996	1997	1998	1999	2000	2001	2002
Output	600	800	1000	800	1200	1000	1400

8. On the basis of the following information. Calculate Fisher's Ideal Index.
 $\Sigma p_1q_1=217$, $\Sigma p_0q_1=190$, $\Sigma p_0q_0=184$, $\Sigma p_1q_0=212$.

PART – B

Note: Answer all the questions.

(5 x 12 = 60 Marks)

9. (a) Given the following data

	X	Y
Arithmetic Mean	36	85
Standard Deviation	11	8

Where, Co-efficient of Correlation = 0.66.

- (i) Find the Regression Equation of X on Y.
- (ii) Estimate the value of X when Y=60.

(OR)

- (b) From the following table find the two Regression Equations.

X	10	12	13	16	17	20	25	29
Y	10	12	24	27	29	33	37	42

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10. (a) Using the data given below calculate Price Index Numbers for the year 2003 by (i) Laspeyres's formula (ii) Pasche's formula and (iii) Fisher's formula with the year 2002 as base

Commodity	Price		Quantity	
	2002	2003	2002	2003
Rice	9.3	4.5	100	90
Wheat	6.4	3.7	11	10
Pulses	5.1	2.7	5	3

(OR)

- (b) Construct with the help of the data given below Fisher's Ideal index and show how it satisfies the Time Reversal Test, and Factor Reversal Test.

Article	Base Year		Current Year	
	Price	Quantity	Price	Quantity
Wheat	8	50	20	60
Ghee	2	15	6	10
Firewood	1	20	2	25
Sugar	2	10	5	8
Cloth	1	40	3	30

11. (a) Estimate the trend values using the data given below by taking a Four Yearly Moving Average.

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Value	12	25	39	54	70	87	105	100	82	65	49	34

(OR)

- (b) Use the Method of Least Squares to fit a Straight-Line Trend to the following data.

Year	1995	1996	1997	1998	1999	2000	2001
Profits	75	70	72	65	50	54	41

12. (a) A card is drawn at random from a pack of cards. What is the probability that it is (i) Either a Spade or a Queen (ii) Either a King Card or a Black Card.

(OR)

- (b) State the various methods of approaches to Probability.

13. (a) A book contains 100 misprints distributed randomly throughout its 100 pages. What is the probability that a page observed at random contains at least two misprints? Assume poisson distribution.

(OR)

- (b) What do you mean by Normal Distribution? Explain the importance of Normal Distribution.

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