



ST. FRANCIS DE SALES COLLEGE

A FRANSALIAN INSTITUTE OF HIGHER EDUCATION **AUTONOMOUS**

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END SEMESTER EXAMINATION – APRIL/MAY 2026

COMMERCE - II SEMESTER BCOM

25BCO26: QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Time: 3 Hours

Max. Marks: 80

Instruction: Answer should be written completely in English.

SECTION - A

1. Answer any **SEVEN** questions. Each Carries **TWO** marks.

(7X2=14)

- Mention the types of Correlation.
- Find the probable error if $r = 0.448$, $N = 9$.
- If $b_{xy} = 1.36$, $b_{yx} = 0.6132$, find 'r'.
- Compute two regression coefficients when $r = 0.8$, $\sigma_x = 5$, $\sigma_y = 7$.
- What is seasonal variation? Give an example.
- What is Moving Average method in Time Series Analysis?
- Define the term Extrapolation.
- Write the formula for Newton's method of advancing Differences.
- Define the term Probability. Give an Example.
- What is sample space?

SECTION - B

Answer any **THREE** questions. Each Carries **EIGHT** marks.

(3X8=24)

2. Obtain the coefficient of Rank correlation from the following data.

X	75	88	95	70	60	80	81	50
Y	120	134	150	115	110	140	142	100

3. Obtain two regression equations from the following:

	X - Series	Y - Series
Mean	20	25
Variance	4	9

Coefficient of correlation = 0.75

4. Find the trend values by three yearly moving average method.

Year:	1999	2000	2001	2002	2003	2004	2005
Production:	112	138	146	154	170	183	190
('000' in units)							

5. List the differences and assumptions of interpolation and extrapolation.



6. A bag contains 50 tickets with market numbers 1 to 50. One ticket is drawn at random. Find the probability that it will be a multiple of 3 or 9.

SECTION - C

Answer any **THREE** questions. Each Carries **FOURTEEN** marks.

(3X14=42)

7. Obtain the coefficient of Rank correlation from the following data of marks obtained by 9 students in Statistics and Accountancy examination.

Marks in Accountancy:	80	55	60	36	60	25	90	15	60
Marks in Statistics:	30	8	17	13	25	12	13	2	6

8. From the following data obtain the two regression equations

Sales:	91	97	108	121	67	124	51	73	111	57
Purchase:	71	75	69	97	70	91	39	61	80	47

Also find correlation co-efficient between sales and purchase.

9. Fit a straight-line trend by the method of least squares for the following data and show the values on a graph.

Year:	2007	2008	2009	2010	2011	2012	2013
Production:	80	90	92	83	94	99	92
	(000 units)						

10. From the following data find the number of students who have obtained less than 55 marks using Newton's method.

Marks:	30-40	40-50	50-60	60-70	70-80
No. of Students:	31	42	51	35	31

11. a. A pair of unbiased dice is thrown. If the two numbers appearing be different, find the probability that
- the sum 6
 - the sum is 5 or less
- b. One card is drawn from a standard pack of 52. What is the probability that it is
- A Spade
 - A King
 - The Ace of club

