



**II Semester B.Com. Examination, June/July 2026
(SEP 2025 – 26) (Freshers)**

COMMERCE

COM-2.4 : Quantitative Techniques for Business Decisions

Time : 3 Hours

Max. Marks : 80

Instruction : Answer should be written completely in **English or Kannada**.

SECTION – A

1. Answer **any seven** out of ten questions. **Each** question carries **2** marks. **(7×2=14)**

- If $r = 0.6$ and $N = 64$, find the probable error.
- Give the meaning of positive correlation.
- If $b_{xy} = 0.8$ and $b_{yx} = 0.6$, find r .
- What are the regression lines ?
- State the components of Time Series.
- What do you mean by cyclical variations ?
- What is interpolation ?
- Expand $(y - 1)^5 = 0$.
- What is probability ?
- What are exhaustive events ?



SECTION – B

Answer **any three** out of five questions. **Each** question carries **8** marks. **(3×8=24)**

2. For the following data, calculate Spearman's Rank Correlation.

X	60	34	40	50	45	41	22	43	42	66	64	46
Y	75	32	35	40	45	33	12	30	36	72	41	57



3. You are given below the information about advertising and sales of a company.

	X Advertising expenses (₹ in lakhs)	Y Sales (₹ in lakhs)
Mean	10	90
Standard deviation	3	12
Coefficient of correlation	0.8	

Calculate the Regression lines of X on Y and Y on X.

4. Using a 3 yearly moving averages, determine the trend values from the following data.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Consumption (in '000 Units)	12	14	18	24	22	20	16	25	26	34	31

5. Interpolate the business done in 2022 from the following data :

Year	2019	2020	2021	2022	2023	2024
Business done (₹ in lakhs)	150	235	365	—	525	780

6. What is the probability of getting a queen or a heart from selecting a card from a deck of cards ?

SECTION – C

Answer **any three** out of five questions. **Each** question carries **14** marks. **(3×14=42)**

7. Find out Karl Pearson's co-efficient of correlation from the following data of marks obtained by 10 students in a class test.

X Marks in Statistics	45	70	65	30	90	40	50	75	85	60
Y Marks in Accountancy	35	90	70	40	95	40	60	80	80	50



8. The following figures related to advertising expenditure and sales.

X Advertising expenses (₹ in lakhs)	60	62	65	70	73	75	71
Y Sales (₹ in crores)	10	11	13	15	16	19	14

Find the two regression equations and estimate the sales for advertising expenditure of ₹ 90 lakhs.

9. The following figures represent the annual sales of M/s Jagannath Co. Ltd.

Year	1996	1997	1998	1999	2000
Sales (₹ in lakhs)	46	50	40	70	60

Find the trend values for each year by adopting the method of least squares and show the actual and trend line on a graph sheet.

10. Estimate the production for the years 1965 and 1975 from the following data using Binomial Expansion method.

Year	1950	1955	1960	1965	1970	1975	1980
Production (in'000 tonnes)	100	120	150	—	210	—	320



11. a) A pair of unbiased dice is thrown, if the two numbers appearing be different, find the probabilities that,
- The sum is 6
 - The sum is 5 or less.
- b) A box contains 50 coins numbered from 1 – 50. One coin is drawn at random. Find the probability that the number on the coin drawn will be a multiple of
- 3 or 9
 - 5 or 7.

ಕನ್ನಡ ಆವೃತ್ತಿ

ವಿಭಾಗ - ಎ

1. ಹತ್ತು ಪ್ರಶ್ನೆಗಳ ಪೈಕಿ ಯಾವುದಾದರೂ ಏಳು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ. ಪ್ರತಿ ಪ್ರಶ್ನೆ 2 ಅಂಕಗಳನ್ನು ಹೊಂದಿರುತ್ತದೆ.

(7×2=14)

- $r = 0.6$ ಮತ್ತು $N = 64$ ಆಗಿದ್ದರೆ, ಸಂಭವನೀಯ ದೋಷವನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.
- ಧನಾತ್ಮಕ ಸಹಸಂಬಂಧದ ಅರ್ಥ ನೀಡಿ.
- $b_{xy} = 0.8$ ಮತ್ತು $b_{yx} = 0.6$ ಆಗಿದ್ದರೆ, r ಅನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.
- ಹಿಂಚಲನೆಯ ರೇಖೆಗಳು ಎಂದರೇನು ?
- ಸಮಯದ ಸರಣಿಯ ಅಂಶಗಳನ್ನು ತಿಳಿಸಿ.
- ಆವರ್ತದ ಬದಲಾವಣೆ ಎಂದರೇನು ?
- ಇಂಟರ್‌ಪೋಲೇಷನ್ (ಅಂತಃಕ್ಷೇಪಣ) ಎಂದರೇನು ?
- $(y - 1)^5 = 0$ ವಿಸ್ತರಿಸಿ.
- ಸಂಭವನೀಯತೆ ಎಂದರೇನು ?
- ಸಮಗ್ರ ಘಟನೆಗಳು ಎಂದರೇನು ?