



III Semester B.B.A. Examination, December 2024/January 2025
(NEP) (Freshers and Repeaters)
BUSINESS ADMINISTRATION

Paper – 3.3 : Statistics for Business Decisions



Time : 2½ Hours

Max. Marks : 60

Instruction : Answers should be written **completely in English only**.

SECTION – A

Answer **any five** of the following questions. **Each** question carries **two** marks. **(5×2=10)**

1. a) What is secondary data ? Give an example.
- b) What do you mean by sampling ?
- c) Mention any two merits of Arithmetic Mean.
- d) What is meant by 'zero correlation' ?
- e) State any two properties of regression coefficients.
- f) What is seasonal variation ?
- g) Why is Fisher's index number considered to be ideal ?

SECTION – B

Answer **any three** of the following questions. **Each** question carries **four** marks. **(3×4=12)**

2. What is classification of data ? Explain any three types of classification of data.
3. Briefly explain the components of time series analysis.
4. The following table shows the number of hours spent on social media per day by a group of 20 individuals :

Hours spent on social media	1	2	3	4	5
Number of individuals	4	6	2	4	4

Calculate the arithmetic mean of the number of hours spent on social media per day by the individuals.

P.T.O.



5. Calculate coefficient of rank correlation from the following data.

X	60	34	40	50	45	41	22	43	42
Y	75	32	34	40	45	33	12	30	36

6. Calculate consumer price index from the following data.

Items	Index	Weight
Food	350	30
Clothing	280	20
Transportation	200	25
Housing	180	15
Education	220	10

SECTION – C

Answer **any three** of the following questions. **Each** question carries **ten** marks. **(3×10=30)**

7. Calculate mean, median and mode from the following data.

No. of workmen	0-50	50-100	100-150	150-200	200-250	250-300	300-350
No. of companies	13	9	0	7	4	5	2

8. The data regarding the amount of time employees spend in training programmes and their job performance scores is provided below :

Training hours	15	20	25	30	35	40	45
Performance scores	65	75	80	85	90	95	105

Calculate the Pearson correlation coefficient between training hours and performance scores. Interpret the result.



9. A study was conducted to know the relationship between advertising expenses (X) and sales revenue (Y) for a company. The data is given below :

	Advertising Expenses (₹)	Sales Revenue (₹)
Mean	50,000	1,20,000
Standard deviation	10,000	15,000
Correlation coefficient	0.75	

- a) Calculate the regression equations.
b) Find the likely sales revenue when advertising expenses are ₹ 80,000.
c) Find the likely advertising expenses when sales revenue is ₹ 1,40,000.
10. The following data relates to income of a firm for the last six years :

Year	2019	2020	2021	2022	2023	2024
Income (₹ in Lakhs)	700	600	800	900	700	1,000

- a) Fit a straight-line trend by the method of least square.
b) Estimate the income for the year 2026.
11. Construct Fisher's ideal index number from the following and show how it satisfies Time Reversal Test (TRT) and Factor Reversal Test (FRT).

Commodity	2019		2024	
	Price	Quantity	Price	Quantity
A	20	25	10	12
B	9	16	20	25
C	4	14	12	16
D	12	35	7	17
E	10	30	10	15



SECTION – D

Answer **any one** of the following questions. It carries **eight** marks.

(1×8=8)

12. a) The distribution of monthly incomes for a sample of individuals is given below. Draw a histogram and obtain the mode graphically. Verify the result.

Monthly wages (₹ in lakhs)	0-10	10-20	20-30	30-40	40-50	50-60
No. of employees	8	20	25	18	7	5

OR

- b) Draw ogive curves and locate median graphically.

Class Interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	3	8	14	25	15	7	2