2025

(CBCS)

(6th Semester)

ECONOMICS

TENTH PAPER

(Quantitative Techniques—II)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(*Marks* : 10)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. The goal of _____ is to focus on summarizing and explaining a specific set of data.

   (a) inferential statistics ( )

   (b) descriptive statistics ( )

   (c) business statistics ( )

   (d) social statistics ( )

2. The method that involves study of each and every item of the universe is

(a) census ( )

(b) sample ( )

(c) random sampling ( )

(d) quota sampling ( )

3. In an open-ended frequency distribution

(a) mean cannot be found ( )

(b) median cannot be found ( )

(c) mode cannot be found ( )

(d) range cannot be found ( )

4. Which of the following measures of dispersion ignores plus or minus signs of deviations?

(a) Range ( )

(b) Quartile deviation ( )

(c) Mean deviation ( )

(d) Standard deviation ( )

5. _____ is defined as the ratio of the number of favourable cases to the total number of equally likely cases.

(a) Classical probability ( )

(b) Conditional probability ( )

(c) Empirical probability ( )

(d) Modern probability ( )

6. The shape of normal curve is

(a) flat ( )

(b) circular ( )

(c) spiked ( )

(d) bell-shaped ( )

7. If correlation between the two variables is unity, there is

(a) perfect correlation ( )

(b) perfect positive correlation ( )

(c) perfect negative correlation ( )

(d) absence of correlation ( )

8. The dependent variable in a regression is also called

(a) regressor ( )

(b) constant variable ( )

(c) continuous variable ( )

(d) regressed ( )

9. Which of the following is not a measurement of trend?

(a) Graphic method ( )

(b) Method of semi-average ( )

(c) Method of moving average ( )

(d) Method of composite straight lines ( )

10. Which show the changes in the general price level of the country?

(a) Retail price index numbers ( )

(b) Wholesale price index numbers ( )

(c) Agricultural price index ( )

(d) Industrial price index ( )

(SECTION : B—SHORT ANSWERS)

(*Marks* : 15)

Write notes on the following : 3×5=15

UNIT—I

1. Primary and secondary data

OR

2. Frequency distribution

UNIT—II

3. Kurtosis

OR

4. Characteristics of a good measure of dispersion

UNIT—III

5. Exhaustive events

OR

6. Binomial distribution

UNIT—IV

7. Positive and negative correlation

OR

8. Coefficient of determination

UNIT—V

9. Uses of time series analysis

OR

10. Problems in the construction of index number

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following : 10×5=50

UNIT—I

1. What do you mean by Statistics? Write the uses of Statistics in Economics. 4+6=10

OR

2. *(a)* Calculate geometric mean of 1, 2, 2, 4. 4

(b) Show the following data with the help of pie-chart : 6

Items	*Expenditure (%)*
Wages	25
Bricks	15
Cement	20
Steel	15
Wood	10
Supervision	15

UNIT—II

3. Calculate the median from the data given below. Also, calculate the mode through graph : 6+4=10

Size	0–10	10–20	20–30	30–40	40–50	50–60
Frequency	3	10	20	7	6	4

OR

4. You are given the following data about height of boys and girls :

	Boys	*Girls*
Number	72	38
Average height (in inches)	68	61
Standard deviation	3	2

(a) Which of the two distributions is more uniform?

(b) Calculate combined mean height.

(c) Find out the combined standard deviation. 2+3+5=10

UNIT—III

5. *(a)* State and prove the multiplication theorem of probability. 6

(b) A bag contains 7 red, 4 green and 5 white balls. Three balls are drawn at random. What is the probability that one red, one white and one green balls are drawn? 4

OR

6. Define Poisson distribution. Discuss the properties of Poisson distribution. 4+6=10

UNIT—IV

7. Find out the coefficient of correlation between ages of husband and wife in a particular community. Also, give a comment on the result : 8+2=10

Age of husband (in years)	21	22	23	24	25	26	27
Age of wife (in years)	16	15	17	18	19	20	21

OR

8. With the help of the following data, obtain the two regression equations. Also, calculate the most likely value of X when $Y = 10$: 4+4+2=10

X series	35	25	29	31	27	24	33	36
Y series	23	27	26	21	24	20	29	30

UNIT—V

9. Define time series. Discuss the various components of time series. 2+8=10

OR

10. From the following data, calculate the price index numbers for the year 2024 taking 2021 as base year. Use *(a)* Laspeyres' method, *(b)* Paasche's method and *(c)* Fisher's method : 3+3+4=10

Commodity	*2021*		*2024*	
	Price	*Quantity*	*Price*	*Quantity*
A	20	4	40	6
B	50	3	60	5
C	40	5	50	10
D	20	10	40	20

★★★