D 131553 **(Pages : 2)** **Name.....**

Reg. No.....

THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2025

Economics

ECO 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—I

(2020—2023 Admissions)

Time : Two Hours and a Half Maximum : 80 Marks

Section A (Short Answer Questions)

Maximum marks in this Section is 25.
Students can attempt **all** *questions.*
Each question carries a maximum of 2 *marks.*

1. Co-efficient of variation.
2. Pie chart.
3. Adjoint of a matrix.
4. Simultaneous equations.
5. Ogive.
6. OLS.
7. Regression line.
8. Logarithm.
9. Dependent and independent variables.
10. Diagonal matrix.
11. Cumulative frequency.
12. Scatter diagram.
13. Slope and intercept.
14. Kurtosis.
15. Absolute and relative measures of dispersion.

Turn over

Section B (Short Essay/Paragraph Questions)

Maximum marks in this Section is 35.
Students can attempt **all** *questions.*
Each question carries a maximum of 5 *marks.*

16. Define regression lines. Explain simple linear regression.

17. Distinguish between linear and non-linear equations. Explain the features of linear equations.

18. Differentiate between range and quartile deviation. What is the range of the following group of numbers : 10, 2, 5, 6, 7, 3, 4.

19. Explain meaning, construction and advantages of Lorenz curve.

20. What is meant by standard deviation ? Calculate SD for the following observations using different methods.

    X = 160, 160, 161, 162, 163, 163, 163, 164, 164, 170

21. What is meant by rank of a matrix ? Calculate the rank of the given matrix A

$$A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 3 & 1 \\ 1 & 1 & 2 \end{bmatrix}.$$

22. Explain and prove the properties of determinants.

23. Differentiate between positively skewed and negatively skewed distribution.

Section C (Long Essay Questions)

Answer any **two** *questions.*
Each question carries a maximum of 10 *marks.*

24. What is meant by Correlation ? Explain various methods of measuring correlation.

25. Explain the meaning and types of measures of central tendency. Calculate median from the following :

X (marks)	:	10–20	20–30	30–40	40–50	50–60	60–70	70–80
Frequency	:	7	10	10	20	20	15	8

26. Examine the data management using spreadsheet. Illustrate various methods of representation of data graphically.

27. Solve the following equations using Cramer's rule :

$$5x - 2y + 3z = 16$$
$$2x + 3y - 5z = 2$$
$$4x - 5y + 6z = 7.$$

(2 × 10 = 20 marks)