D 51830 (**Pages : 2**) **Name**.....

Reg. No.....

THIRD SEMESTER (CBCSS–UG) DEGREE EXAMINATION, NOVEMBER 2023

Economics

ECO 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—1

(2019–2022 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. Null Matrix.
2. Frequency tables.
3. Coefficient of variation.
4. Pie diagram.
5. Regression.
6. Spreadsheet.
7. Simple linear regression.
8. Standard deviation.
9. Bar diagram.
10. Simultaneous equations.
11. Scatter diagram.
12. SPSS.
13. Slope and intercept.
14. Kurtosis.
15. Transpose of matrix.

Turn over

Section B (Short Essays/Paragraph Questions)

Maximum marks in this section is 35.

Students can attempt **all** *questions.*

Each question carries a maximum of 5 *marks.*

16. Differentiate between minor and cofactor of a matrix. Give suitable example.
17. Solve the following simultaneous equations using Crammers' s rule :

    $5x - 6y + 4z = 15$

    $7x + 4y - 3z = 19$

    $2x + y + 6z = 46$
18. Define Correlation. Explains various methods of measuring correlation.
19. Explain the concept of Lorenz curve and crime coefficients with graphical representation.
20. Distinguish between range and coefficient of range. Find the range and coefficient of range of the following data :

    25, 67, 48, 53, 18, 39, 44.
21. What do you mean by inverse of a matrix ? Give numerical example.
22. Find the standard deviation and variance for the following data :

    57, 64, 43, 67, 49, 59, 44, 47, 61, 59.
23. Explain Skewness. 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. Find the coefficient of correlation for the following data. Interpret the result :

    X – 35 40 60 79 83 95

    Y – 17 28 30 32 38 49
25. What do you mean by regression lines ? Explain simple linear regression with examples.
26. Illustrate various methods of representation of data graphically. Using numerical example represent each of them.
27. Explain the properties of determinants. Find out determinant of the following matrix :

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