TB245632B

Reg. No :.....

Name :.....

**BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2024**

**2022 ADMISSIONS REGULAR**

**SEMESTER V - CORE COURSE (ECONOMICS )**

**EC5B08B18 - Quantitative Techniques for Economic Analysis**

**Time : 3 Hours** **Maximum Marks : 80**

## Part A

**I. Answer any Ten questions. Each question carries 2 marks** **(10x2=20)**

1. Differentiate between arithmetic sequence and geometric sequence.
2. What is irrational number?
3. What are the properties of zero?
4. Define diagonal matrix.
5. Explain row matrix with example.
6. What is the Product rule of differentiation?
7. Find $\lim_{x \to 2} ( 5x^2-4x +4 )$
8. Distinguish between Questionnaire and Schedule.
9. Represent the following frequency table by histogram

| Marks | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
|---|---|---|---|---|---|
| No.of Students | 5 | 20 | 47 | 38 | 10 |

10. Explain the term Skewness.
11. Define Moments.
12. Find the Standard deviation of the values 4, 8, 10,12, 15, 9, 7,7

## Part B

**II. Answer any Six questions. Each question carries 5 marks** **(6x5=30)**

13. Explain different types of algebraic function.
14. What are the three possibilities of net present value and the investment decisions associated with it?
15. If $A = \begin{bmatrix} 3 & 2 & 1 \\ 4 & 5 & 2 \\ 7 & 9 & 1 \end{bmatrix}$ find the minor and cofactor of the elements 4 and 9.
16. If A= {1,2,3,4} B= {2,4,6,8} C= {3,4,5,6} show that AU(BUC) = (AUB)UC.
17. Find out the derivate of i) $x^{-7}$ ii) $x^5$
18. Find the differential coefficient of $x^2 (1+x^3)$
19. Discuss briefly the graphical methods used for representing a frequency distribution.
20. Give the essential properties of a good average.
21. What are positive and negative skewness? Explain the measures of skewness.

## Part C

**III. Answer any Two questions. Each question carries 15 marks** **(2x15=30)**

22. Find the determinant value , Adjoint matrix and inverse of the matrix .i) $\begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ ii) $\begin{bmatrix} 1 & -2 \\ 2 & 1 \end{bmatrix}$

23. Differentiate with respect to x (i) $(2x+3)^4$ (ii) $4(x-2)^3$

24. Construct histogram, frequency polygon and frequency curve from the following data:

| Marks Obtained | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
|---|---|---|---|---|---|---|---|---|
| Number of Students | 10 | 16 | 20 | 20 | 22 | 15 | 8 | 5 |

25. State the various methods of collecting primary data. Discuss their merits and demerits.