

## BACHELOR'S DEGREE (C.B.C.S.S) EXAMINATION, NOVEMBER 2023

## 2021 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. What is rational number?
2. Define composite numbers.
3. What is a polynomial function?
4. Explain row matrix with example.
5. Define square matrix.

6. Find  $\lim_{x \rightarrow 2} (8x^2 - 4 + 5)$

7. Find  $\lim_{x \rightarrow 2} \left( \frac{x^2 + 7x + 6}{x + 2} \right)$

8. Draw a frequency curve to the following frequency distribution.

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	5	8	15	20	12	7

9. Define Random Sampling.
10. Find the arithmetic mean of the following values using direct method: 45,48,50,52,55,58,60,61,63,65
11. What does a Kurtosis indicate?
12. Define Symmetrical distribution.

## Part B

II. Answer any Six questions. Each question carries 5 marks

(6x5=30)

13. What are the properties of natural number set?
14. Define rational number. What are the properties of a rational number?

15. Compute the determinant of the matrix  $A = \begin{bmatrix} 5 & 2 & 3 \\ 2 & 1 & 3 \\ 1 & 3 & 2 \end{bmatrix}$

16. By means of Venn diagram prove that  $A \cap (B \cap C) = (A \cap B) \cap C$ .

17. Find out the derivate of i)  $x^{-7}$  ii)  $x^5$

18. Find the differential coefficient of  $x^2(1+x^3)$

19. Which are the different types of classification?

20. What are positive and negative skewness? Explain the measures of skewness.

21. Find Mode using grouping and analysis method

Size	3	8	10	12	15	20	25	30
Frequency	2	7	15	27	12	4	3	2

**Part C**

**III. Answer any Two questions. Each question carries 15 marks**

**(2x15=30)**

22. Explain the different types of matrices with suitable examples.

23. Differentiate with respect to x (i)  $x^2 - 3x + 2$  (ii)  $4x^2 - 9x - 3$

24. Explain the sources of collecting secondary data.

25. Explain the role of statistics in economic analysis.

