B. A. DEGREE (C.B.C.S.) EXAMINATION, NOVEMBER 2022
2020 ADMISSIONS REGULAR AND 2019, 2018 ADMISSIONS SUPPLEMENTARY
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. Define prime numbers.

2. Define dependent variable.

3. What is an exponential function?

4. Define square matrix.

5. What is a unit matrix?

6. Find $\lim\limits_{x \to 2} (4x^2 - 4x + 3)$

7. Find $\lim\limits_{x \to 2} (8x^2 - 4 + 5)$

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. 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. Define Median.

11. Define Average.

12. Define Geometric mean.

Part B

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

13. Find the present value of Rs 32,000 in 4 months at 9 % interest?

14. Explain the properties of rational number.

15. By means of Venn diagrame prove that A ∩ (B ∩C) = (A ∩ B) ∩ C.

16. By means of Venn diagrame prove that $(A \cap B)^{l} = A^{l} \cup B^{l}$

17. Find out the derivative of   i) x^6 ii) x^{-4}

18. What are the properties of Limit?

19. Following table gives the birth rate per thousand of different countries over a period

Country	Birth rate
India	33
Germany	16
U.K	20
China	40
Newzealand	30
Sweden	12

Represent the above data by a simple bar diagram

20. Give the essential properties of a good average.

21. For the following data calculate Standard Deviation

Marks	2	4	6	8	10
No.of students	8	10	16	9	7

Part C

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

22. If A= {1,3,5,7,9}   B = {2,4,6,8,10}   C = { 3, 4,7, 8,11,12 }

    Show that i) (AUB) UC = AU (B U C)

                ii) (A ∩ B) ∩ C = A∩ (B ∩ C)

                iii) A U (B ∩C) = (A U B) ∩ (A U C)

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. Draw 'less than' and 'more than' ogive curves from the following data:

Marks	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Number of Students	7	10	20	13	12	19	14	9