QP CODE: 25009467

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Reg No : .....

Name : .....

B.A DEGREE (CBCS) SPECIAL REAPPEARANCE EXAMINATIONS, FEBRUARY 2025

Fifth Semester

CORE COURSE - EC5CRT07 - QUANTITATIVE TECHNIQUES

Common for B.A Economics Model I, B.A Economics Model II Foreign Trade & B.A Economics Model II Insurance

2022 Admission Only

7BD64957

Time: 3 Hours Max. Marks : 80

Instructions to Private candidates only: This question paper contains two sections. Answer SECTION I questions in the answer-book provided. SECTION II, Internal examination questions must be answered in the question paper itself. Follow the detailed instructions given under SECTION II.

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Briefly explain the properties of Exponents.
2. Distinguish between finite and infinite sequences.
3. What is Net Present Value?
4. Explain Natural Numbers.
5. Find the derivative of y = 3x2(4x+8).
6. Find the second order derivative of the following function
   Y = (2x+1)(3x2-1).
7. What are the conditions for maximum?
8. What is a linear function?
9. Define quadratic equation.
10. Define matrix.
11. State the addition theorem of probability.

12. A coin is tossed five times. What is the probability of getting heads in all the trials?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain how parameters are different from constants with examples.
14. Find the sum of natural numbers in between 150 and 350 which are exactly divisible by 7.
15. What are derivatives?
16. Find A- B and B- A for the following : a. A= {1,2,3,4,5} AND b = {2,4,6,8,10}
    b. A= {a,b,c,d,e,f} and B= {a,e,I, o,u}
17. Explain venn diagram.
18. IF A= $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, B = $\begin{bmatrix} 1 & 0 \\ 2 & -3 \end{bmatrix}$ AND C = $\begin{bmatrix} 1 & -1 \\ 0 & 1 \end{bmatrix}$. FIND AB +AC
19. Explain the different approaches of Probability.
20. Explain the term random experiments with suitable examples.
21. State the properties of normal distribution.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Solve the following equations i) $6x^2-30x=0$ ii) $6x^2-8x-30=0$ ii) $4x^2+5x-51=0$.
23. Give an account of the applications of derivativesin economics.
24. Solve following Equations using matrices a. inverse method b . Cramer's rule x+y+z = 7 , x+2y +3z = 16 , x+ 3y + 4z = 22.
25. Mean salary of workers in a factory is Rs.5400 with a SD of Rs.480. If a workers is selected at randoam find the probability that his salary is (i) less that Rs.4800, (b) between Rs.5000 and Rs.6000, (iii) exactly equal to Rs.5100 (iv) greater than Rs.5600

(2×15=30)