



22101892

QP CODE: 22101892

Reg No : .....

Name : .....

**B.A DEGREE (CBCS ) SPECIAL SUPPLEMENTARY EXAMINATIONS,  
MAY 2022**

**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

**For Regular Candidates : 2019 Admission Only  
For Private Candidates : 2017 & 2018 Admissions**

A2ED9AEF

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**

**SECTION I**

**Part A**

Answer any **ten** questions.  
Each question carries **2** marks.

1. Define parameters.
2. Distinguish between finite and infinite sequences.
3. Define compound interest.
4. What do you mean by depreciation of assets?
5. Find the derivative of  $y = 4x^8 - 3x^5 - x^3$
6. Find the higher order derivatives of  $Y = 6x^4 + 3x^3 - 4x^2 - x + 10$
7. What are the conditions for minimum?
8. Find complement of A, when  $U = \{a, b, c, d, e, f, g\}$  and  $A = \{a, c, e, f\}$
9. What is a linear function?
10. Find x, y and z ,  $\begin{bmatrix} 5 & 3 \\ 7 & x-z \end{bmatrix} = \begin{bmatrix} y & z \\ 7 & 8 \end{bmatrix}$  when they are equal matrix





11. Define equally likely events.
12. Define binomial frequency distribution.

(10×2=20)

### Part B

*Answer any **six** questions.  
Each question carries **5** marks.*

13. What is meant by degree of equations? Explain with examples.
14. Briefly explain the properties of Exponents.
15. What are derivatives?
16. Explain venn diagram.
17. Define relation. If  $X = \{1,2,3\}$ ,  $Y = \{1,2,3,4,5,6\}$  and  $X$  is related to  $Y$  on rule  $Y = 2X$ . find Domain, Range, Relations and Image set.
18. Solve system of equation using cramer's rule:  $6x+2y = 38$  and  $6x- 2y = 46$ .
19. Explain the different approaches of Probability.
20. Explain the application of probability in economics.
21. Find the probability of drawing an ace or a spade from the pack of cards.

(6×5=30)

### Part C

*Answer any **two** questions.  
Each question carries **15** marks.*

22. Elaborate on the different types of numbers on the real number system with its mathematical properties.
23. Give an account of the applications of derivatives in economics.
24. Solve the system of equation :  $12x - 16y + 20z = -24$ ,  $4x + 4y - 8z = -4$  and  $8x + 12y + 4z = 20$
25. In an intelligence test administered to 1000 students the average score was 42 and SD 24. Find the number of students (a) exceeding a score 50, (b) scoring between 30 and 54. Also find (c) the value exceeded by the top 100.

(2×15=30)

