Total Pages : 3   Roll No. ....

BBA (N)-403

Business Mathematics

Examination 2025 (June)

Time: 02:00 hrs   Max. Marks: 70

Note : This paper is of Seventy (70) marks divided in to two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-"A"

(Long Answer - type Questions)

Note:- Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

(2x19=38)

P.T.O

1. Find the 10th term and sum of first 10 terms of AP: 3, 7, 11, ...

2. How many ways can the letters in the word "LEADING" be arranged?

3. Use induction to prove that $2^n > n^2$ for all $n \geq 5$.

4. Multiply:
$$A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$
$$B = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$$

5. Evaluate $\int x \log x \, dx$ using integration by parts.

Section-"B"

(Short -answer - type questions)

Note:- Section 'B' contains eight (08) short-answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

(4x8=32)

1. Define and illustrate the concepts of universal set, subset, and power set.

2. Define various types of matrices with examples.

3. Describe continuity and types of discontinuities.

4. State the Fundamental Theorem of Calculus.

A-1104

5. Evaluate $\int_0^2 (3x^2 + 2x)\, dx$.

6. Describe Integration by Parts and its formula.

7. Let $f(x) = x^2$ and $g(x) = 2x + 1$. Find $(f \circ g)(x)$.

8. Simplify: $\log(1000) + \log(10) - \log(100)$.

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