A-0812

Total Pages : 4   **Roll No. -------------**

BBA-102

Business Mathematics

Bachelor of Business Administration (BBA)
1st Semester Examination 2024(Dec.)

Time: 2:00 hrs   Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into 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]

Q.1.   A business's revenue grows geometrically at the rate of 10% per year. If the first year's revenue is ₹ 1,00,000, calculate the revenue at the end of the 5th year.

Q.2.   Solve the following system of linear equations using matrices:

- $2x + 3y = 3$

- $3x - y = 5$

Q.3.   Explain the concept of sets with examples. Discuss the types of sets and their business applications.

Q.4.   Explain the concept of determinants and their properties. Discuss their role in solving business related problems.

Q.5. Explain the concepts of permutations and combinations. Provide business scenarios where these concepts are applicable.

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]

Q.1. Differentiate between arithmetic and geometric progressions with examples.

Q.2. Calculate the number of ways to arrange 5 items out of 10.

Q.3. Explain the complement of a set with examples.

Q.4. Simplify: $2^{5.}\ 2^{-3}\ /4^2$

P.T.O.

Q.5. A bank account compounds annually at 5%. If

₹ 10,000 is invested, calculate the balance after 3

years.

Q.6. Integrate $\int (x^3 + 2x^2 - x + 4)dx$

Q.7. Explain the addition and multiplication of matrices

with examples.

Q.8. State and explain the basic laws of indices.

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