

Bridge Course

Bachelors of Management Studies

Syllabus for Business Mathematics

The Bridge Course on Business Mathematics is a specialized learning program designed to strengthen students' understanding and application of mathematical concepts within the context of the business environment. This course serves as a helpful link, connecting foundational mathematical principles with their practical use in real-world business scenarios.

Objectives:

1. **Numerical Proficiency:** The primary objective is to enhance students' comfort and proficiency in working with numbers, equipping them with the skills needed to navigate the quantitative aspects of business.
2. **Practical Application:** The course aims to demonstrate how mathematical theories are practically applied in various business operations, including financial analysis, budgeting, and decision-making.
3. **Problem-Solving Skills:** Through interactive activities and exercises, the course focuses on developing students' problem-solving abilities, emphasizing their application to common challenges encountered in the business world.

Learning Outcomes:

1. **Confidence in Mathematical Skills:** Participants will gain increased confidence in their ability to perform calculations, interpret numerical data, and apply mathematical concepts to solve business-related problems.
2. **Application in Business Context:** Students will acquire a practical understanding of how mathematics is utilized in day-to-day business activities, preparing them for the demands of the professional world.
3. **Effective Problem Solving:** The Bridge Course aims to hone students' skills in approaching and solving problems strategically, incorporating mathematical methods to find efficient solutions.
4. **Clear Communication of Mathematical Concepts:** Participants will develop the ability to communicate mathematical ideas clearly, facilitating collaboration and effective communication within a business setting.

Topics	No of lectures
<p>Simple and Compound Interest: Interest compounded once a year, more than once a year, continuous, nominal and effective rate of interest Annuity-Present and future value-sinking funds Depreciation of Assets: Equated Monthly Installments (EMI)- using flat interest rate and reducing balance method.</p>	01
<p>Matrices and Determinants Matrices: Some important definitions and some important results. Matrix operation (Addition, scalar multiplication, matrix multiplication, transpose of a matrix) Determinants of a matrix of order two or three: properties and results of Determinants</p>	01
<p>Derivatives and Applications of Derivatives Introduction and Concept: Derivatives of constant function, logarithmic functions, polynomial and exponential function Rules of derivatives: addition, multiplication, quotient Second order derivatives</p>	01
<p>Numerical Analysis [Interpolation] Introduction and concept: Finite differences – forward difference operator – Newton’s forward difference formula with simple examples</p>	02
<p>Total no of lectures</p>	05