Programme: B.Voc

BUSINESS MATHEMATICS
24IIIBVOC01

Semester: III

No. of Credits: 4   **No. of Hours: 60**

COURSE OBJECTIVES:
- To understand the basic quantitative skills.
- To understand, analyze and solve mathematical problems encountered in business and finance.
- To understand in investment decision making.

LEARNING OUTCOMES:
- Compute simple interest, compound interest annuities and discounting of bills of exchange.
- Calculate different types of ratios and proportion
- Calculate simultaneous equation, quadratic equation and factorization method Calculate matrix and determinants.
- Calculation of EMI
- Calculation of area and perimeter of solid figures

UNIT 1: MATHEMATICS FOR FINANCE   24hours

Simple Interest, Compound Interest (Annual, Bi-Annual, Quarterly Compounding); Annuities-Present and Future value of Annuity, calculation of EMI, Perpetuity; Bills Discounting (Present worth, Future face value, Trade Discount and Banker discount, Bankers gain and Amount receivable). Percentages, Profit or loss calculations, problems on speed time and work (simple problems)

UNIT 2 : RATIOS & PROPORTION   06 hours
Ratios-Meaning and Significance of Ratios- Equality of Ratios – Compounding Ratios, Duplicate, Triplicate and Sub–Duplicate of a Ratio;
Proportions-Meaning and Significance of Proportions – Fourth proportional – Third Proportional and Mean Proportional – Continued Proportion, Direct and Inverse Proportions.

UNIT3: THEORY OF EQUATIONS   08hours
Meaning and types of equation – Linear Equation – Meaning and Problems- Simultaneous Equation –Meaning and Problems with only two variables (Elimination Method) – Quadratic Equation – Factorization and Formula Method

UNIT4: PERMUTATIONS AND COMBINATIONS, MATRICES   14 hours
Problems on Permutations and Combinations (simple problems); Matrices-Meaning and Types of Matrices, Simple Problems on Addition, Subtraction and Multiplication.

UNIT 5: MEASUREMENT OF SOLIDS   8 hours
Introduction-Meaning and Problems on Area and Perimeter /Circumference of Triangle, Square,

Rectangle, Circle, Cone and Cylinder.

SKILL DEVELOPMENT ACTIVITIES:
- Collect details from your nearest trading concern regarding normal discount.
- Collect Information from a financial company or firm regarding rate of interest charged on advances and deposits and how the bills are discounted by the business firms and bands.
- Amortization Table for Loan Amount – EMI Calculation.
- Simultaneous Equations Method for Business.
- Application of Matrix in Business Problems.
- Use Matrix principles of implement food requirement and protein for two families
- Measure your classroom with the help of a tape and find the cost of the carpet for the floor area of the classroom.
- Visit any Commercial Bank in your area and collect the information about types of loans

BOOKS FOR REFERENCES:
1) Dr. Sancheti & Kapoor: Business Mathematics and Statistics, Sultan Chand
2) Rajesh Rajghatta: Methods and Techniques of Business Data Analysis, Kalyani Publishers
3) Zamarudeen: Business Mathematics, Vikas Publications
4) R.S Bhardwaj: Mathematics for Economics & Business
5) Madappa, Business Mathematics, Subhas Publications
6) G K Ranganath, Business Mathematics, HPH

Note: Latest edition of text books may be used