

**JYOTI NIVAS COLLEGE AUTONOMOUS
SYLLABUS FOR 2018 BATCH AND THEREAFTER**

Programme: B.Voc. (Banking and Finance)

Semester: I

BUSINESS MATHEMATICS

Course Code: 18BVB103

No. of Hours: 60

COURSE OBJECTIVES:

- To provide basic knowledge of quantitative methods.
- To enhance knowledge about application of Mathematics to various commercial situations.
- To provide knowledge about application of Mathematics in day to day life.

LEARNING OUTCOMES:

- To enable students in calculation of various types of interest and application of the same.
- To enable them to solve their various day to day business situations in matrix form and solve them.
- To enable them to apply various ratios and progression in their business related issues.

UNIT 1

Number system:

05 HRS

Natural numbers, Even, Odd, Integers, Prime, Rational and Irrational numbers, H.C.F, L.C.M and factorization.

UNIT 2

Commercial Arithmetic: 22 HRS

Simple and compound interest, effective rate of interest, sinking fund, depreciation, annuities and present value. Percentage. Discounting of bills, true discount, bankers gain (application problems).

UNIT 3

**Matrices and Determinants:
HRS**

15

Types of matrices, problems on addition, subtraction, multiplication, transpose, adjoint and inverse of matrices - determinants. Solution of simultaneous equations in two variables using Cramer's rule, application problems. (related commercial problems)

UNIT 4

Progressions:

12 HRS

Arithmetic progressions - finding the 'n'th term of an AP and also sum of 'n' terms of an AP. Inserting of Arithmetic mean in given terms of AP and representation of AP. Geometric progression- finding 'n'th term of a GP. Insertion of Geometric means in given GP and also representation of GP. (related commercial problems)

UNIT 5

Ratio and proportion

06 HRS

Ratio- concept of ratio- duplicate, triplicate, sub duplicate and sub triplicate ratios, related problems. **Proportion-** Properties, third fourth and inverse proportion (related commercial problems)

SKILL COMPONENT

- Develop an amortisation table for loan amount – EMI calculation.
- Calculation of savings bank account interest.
- List out examples where Cramer's rule is applied in day to day life. Collect data and solve for 5 such examples using Cramer's Rule.
- Collect data of income and expenditure of 5 families and represent the data in the form of percentages.
- List out examples where Progressions is applied in day to day life. Collect data and solve for 5 such examples using Progressions.

BOOKS FOR REFERENCE

1. G.K. Ranganath and T.V. Narasimha Rao - Business Mathematics
2. K. Madappa and M.S. Sreedhara Rao - Business Mathematics
3. Dorai Raj - Business Mathematics – United Publishers and Printing Press, 2004
4. S.R. Arora and Dinesh Khattar - Business Mathematics – S.Chand and Co., New Delhi, 2001
5. V. Sundaresan and S.D. Jeyaseelan - Business Mathematics – S.Chand and Co., New Delhi, 1998
6. B. M Agarwal and Kapoor V.K and D.C Sanchet - Business Mathematics – S.Chand and Co., New Delhi, 1995
7. Wilson. M - Business Mathematics – Himalaya Publishing House – Edition I, 2004