

K L UNIVERSITY
DEPARTMENT OF COMMERCE
B.Com (Honours) (Accounting & Finance)
I - SEMESTER

BUSINESS MATHEMATICS

L – T – P: 3-0-2

Unit I: Fundamentals of Functions: (Hours 15)

Introduction – Basic Concepts – Functions or Mappings - Types of Functions – Linear Function – Constant Function – Quadratic Functions – Exponential Functions – Homogeneous Functions – Business and Economic Functions such as Demand, Supply, Total, Revenue, Average Revenue, Total Cost, Average Cost and Profit Functions.

Unit II: Graphical Representation of Functions and Limits: (Hours 10)

Meaning of the Graph of a Function – Meaning of the equation of a curve – Straight Line – Slope of line passing through two given points – Intersect form of a straight line – Graphs of different types of functions - Concept of Limit – Theorems of Limits (Without Proofs) – continuity of a function

Unit III: Derivatives and their Applications: (Hours 15)

Concept of Differentiation – Some important theorems (Without Proofs) - Derivatives of Functions – Rules of Derivatives – Second order Derivatives – Application of Derivatives – Marginal Cost – Marginal Revenue – Elasticity of Demand – Maxima and Minima for functions in Economics and Business – Integration of simple Functions – Present value and future value of continuously compounded Annuity.

Unit IV: Elements of Matrix Algebra: (Hours 12)

Introduction – Types of Matrices – Scalar Multiplication of a Matrix – Equality of Matrices – Matrix operations – Transpose of a Matrix – Determinants of a Square Matrix – Inverse of a Matrix – Solutions of Simultaneous equations with the inverse of a Matrix – Rank of a Matrix.

Unit V: Introduction to Financial Mathematics: (Hours 8)

Progressions – Arithmetic Progressions – Geometric Progressions and sums of their first n terms – Problems with Business applications - Simple Interest – Compound Interest – interest compounded more than once a year nominal, effective and continuous rates of interest – Immediate (ordinary) annuity, its present value and future value - Equated Monthly Installments (EMI) using reducing interest system amortization of loans – Sinking fund – Depreciation of Assets.

Text Book:

1. *D.C.Snacheti & V.K.Kapoor* , Business Mathematics, *Sultan Chand & Sons* , 2005, 7th Edition, New Delhi

Reference Books:

1. *Alpha Chiang*, Mathematics for Economists, *Tata Mc.Graw-Hill*, 2009, 10th Edition, New Delhi

2. *Taro Yamane, Mathematics for Economists, Prentice Hall of India Pvt Ltd, 2008, 2nd Edition, New Delhi*
3. *J.D.Gupta, P.K.Gupta & Man Mohan , Mathematics for Business and Economics, Tata McGraw Hills, 2005, 4th Edition, New Delhi*
4. *K.B.Akhilesh & S.Subrahmanyam, Mathematics and Statistics for Management, Vikas Publication, 2009, 2nd Edition, New Delhi*