

**B. Com. I: Semester I**  
**Business Mathematics Paper I**  
**Compulsory Component**  
**Computer Code: 140108**  
**Marks: 100**

**Objectives:** 1. To familiarize the students with the basic mathematical tools.  
2. To make students to get acquainted with applications of mathematical tools to business and commercial situations.

Unit	Contents	Lectures	Credits	Marks
1	<b>Matrices and Determinants :</b> a. Algebra of matrices. Inverse of a matrix, Matrix Operation – Business Application b. Solution of system of linear equations (having unique solution and involving not more than three variables) using matrix inversion Method and Crammer’s Rule.	15	1.0	25
2	<b>Commercial Mathematics:</b> Ratio and percentages, commission, brokerage, trade and cash discount, cost price, selling price, profit or loss on cost price/ selling price.	15	1.0	25
3	<b>Mathematics of Finance :</b> a. Rates of interest-nominal, effective– and their inter-relationships in different compounding situations. b. Compounding and discounting of a sum using different types of rates.	15	1.0	25
4	<b>Linear Programming :</b> a. Formulation of linear programming problem (LPP). Graphical solution to LPP. Cases of unique and multiple optimal solutions. Unbounded solutions, infeasibility, and redundant constraints.	8	0.5	15
5	<b>Permutation and Combination:</b> (Without concept of probability) Meaning and formulae of permutation and combination, simple problems.	7	0.5	10

Suggested Readings:

1. Mizrahi and Sullivan, Mathematics for Business and Social Sciences, Wiley and Sons.
2. Budnick, P. Applied Mathematics. McGraw Hill Education.
3. R.G.D. Allen, Mathematical Analysis for Economists

4. Ayres, Frank Jr. Schaum's Outlines Series: Theory and Problems of Mathematics of Finance, McGraw Hill Education.
5. Dowling, E.T., Mathematics for Economics, Schaum's Online Series, McGraw Hill Education.
6. Wikes, F.M., Mathematics for Business, Finance and Economics, Thomson Learning.
7. Thukral, J.K., Mathematics for Business Studies.
8. Vohra, N.D., Quantitative Techniques in Management, McGraw Hill Education.
9. Soni, R.S., Business Mathematics, Ane Books, New Delhi.
10. Singh J. K., Business Mathematics, Himalaya Publishing House.