

Course No. 501 (or)

**MATHEMATICS (MATS XVII)**  
**(For B.Com General and six Speciality Courses)**

Hours: 40

Marks: 80

**Objective:** The objective of this course is to enable the student to have the minimum knowledge of mathematics as is applicable to business and economics situation.

**Course Contents:**

**UNIT I: ALGEBRA:** Arithmetic and Geometric Progressions, Quadratic Equations, Logarithm  
Analytical geometry: (Cartesian co-ordinate system) Length of a line segment  
section formula, area of a triangle, square, rectangles, rhombus, Gradient of a  
straight line, equation of straight line (various forms).

20: 10 hrs

**UNIT II: DETERMINANTS:** Definition, Minors and Cofactors of determinant, Properties of  
determinants, calculation of value of determinants up to third order, Solution of a  
system of linear equations (not more than three variables), multiplication of  
determinants.

**MATRICES:** Definition, Types of matrix, Addition and multiplication of matrix;  
Ad joint and inverse of a matrix; solution of linear equations by matrix method (not  
more than three variable), application of matrices.

20: 10 hrs

**UNIT III: LINEAR PROGRAMMING:** Formulation of LPP; Graphical method of solution;  
Problem relating to two variables including the case of mixed constraints; Case  
having no solutions, unbounded solution and redundant constraints.

**SIMPLEX METHOD:** Solution of problems up to the three variables, including the  
cases of mixed constraints; Duality; Transportation problem.

20: 10 hrs

**UNIT IV: CALCULUS** (problems and theorems involving trigonometrically ratios are not to be  
done):- limit and continuity of a function; Differentiation of functions up to second  
order; maxima and minima.

20: 10 hrs

**Text and Reference Books:**

1. Allen R.G.D.: Basic Mathematics; Macmillan, New Delhi.
2. Dowling, E.T.: Mathematics for Economics; Schaum Series, McGraw Hill, London.
3. Loomba, Paul: Linear Programming; Tata Mc Graw Hill, New Delhi.
4. Vohra, N.D.: Quantitative Techniques in Management; Tata Mc Graw Hill, New Delhi.
5. Soni, R.S.: Business Mathematics; Pitamber Publishing House.
6. Kapoor, V.K.: Business Mathematics; Sultan Chand & Sons, Delhi.
7. Holden: Mathematics for Business and Economics; Macmillan, New Delhi