

### LESSON PLAN

Name of Assistant Professor: Ms. Mamtesh Rani

Class: B.Com. 1<sup>st</sup>(Semester- 2nd)

Subject: Mathematics

Paper : Business Mathematics-II

Session: 2025-26

<b>Week 1</b>	Linear programming: Formulation of linear programming problems (LPP)
<b>Week 2</b>	solution by graphical method.
<b>Week 3</b>	Solution by simplex method.
<b>Week 4</b>	Applications of linear programming in solving problems related to business and commerce
<b>Week 5</b>	Binomial Theorem, test
<b>Week 6</b>	Permutations
<b>Week 7</b>	Combinations , assignment
<b>Week 8</b>	Differentiation; derivative of simple functions
<b>Week 9</b>	Maxima and minima of Revenue, Cost
<b>Week 10</b>	Maxima and minima of Demand , Production, assignment
<b>Week 11</b>	Maxima and minima of Profit functions and other functions related to business and commerce.
<b>Week 12</b>	Integration
<b>Week 13</b>	Definite integration, basic rules of integration, assignment
<b>Week 14</b>	Indefinite integration, test
<b>Week 15</b>	basic rules of integration, Revision
<b>EXAMINATIONS</b>	

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### LESSON PLAN

Name of Assistant Professor: Ms. Mamtesh Rani

Class: B.A. 2<sup>nd</sup> (Semester- 4th)

Subject: Mathematics

Paper :Analytical Geometry & Vector Calculus

Session: 2025-26

<b>Week 1</b>	Scalar and Vector product of three vectors, four vectors , Practical
<b>Week 2</b>	Reciprocal vectors, vector differentiation and derivative along a curve, directional derivatives, Practical
<b>Week 3</b>	Gradient of a scalar point function, divergence and curl of vector point functions their geometrical meanings and vector identities, Practical
<b>Week 4</b>	Vector integration: line integral, surface integral and volume integral, Practical
<b>Week 5</b>	Theorem of Gauss, Green, Stoke and problems based on these. , Practical, test
<b>Week 6</b>	General equation of second degree: Classification of conic sections; centre , asymptotes, axes, eccentricity, foci and directrices of conics, Practical
<b>Week 7</b>	Tangent at any point to a conic, chord of contact, pole of line to a conic, Practical
<b>Week 8</b>	Director circle of a conic. Polar equation of a conic, Practical
<b>Week 9</b>	Tangent and normal to a conic, confocal conics, Sphere: General form, Plane section of a sphere. Sphere through a given circle Practical, assignment
<b>Week 10</b>	Intersection of two spheres, tangent plane and line , Intersection of two spheres, tangent plane and line , Practical
<b>Week 11</b>	Cone: Equation of a cone, right circular cone, quadric cone, enveloping cone , Practical
<b>Week 12</b>	Tangent plane and condition of tangency , Practical, test, assignment
<b>Week 13</b>	Cylinder: Right circular cylinder and enveloping cylinder. Central Conicoids: Equation of tangent plane ,Director sphere. Normal to the conicoids. Polar plane of a point Practical
<b>Week 14</b>	Enveloping cone of a Conicoid, Enveloping cylinder of a conicoid, confocal conicoid
<b>Week 15</b>	reduction of second degree equations. , Revision
<b>EXAMINATIONS</b>	

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## LESSON PLAN

Name of Assistant Professor: Ms. Mamtesh Rani

Class: B.A. 3<sup>rd</sup>(Semester- 6th)

Subject: Mathematics

Paper : Numerical Analysis

Session: 2025-26

<b>Week 1</b>	Round-off error and computer arithmetic, Local and global truncation errors, Algorithms and convergence
<b>Week 2</b>	Numerical methods for solving algebraic and transcendental equations: Bisection method, False position method
<b>Week 3</b>	Fixed point iteration method, Newton-Raphson method
<b>Week 4</b>	Secant method. Newton's iterative method for finding nth root of a number
<b>Week 5</b>	Numerical methods for solving simultaneous linear equations: Gauss-elimination method, Gauss-Jordan method
<b>Week 6</b>	Triangularization method (LU decomposition method), Crout's method
<b>Week 7</b>	Cholesky decomposition method. Iterative methods
<b>Week 8</b>	Jacobi's method, Gauss-Seidal method, Relaxation method
<b>Week 9</b>	Finite Differences operators and their relations. Newton-Interpolation with equal intervals: Gregory forward and backward difference interpolations
<b>Week 10</b>	Interpolation with unequal intervals: Newton's divided difference formulae, Lagrange's Interpolation formulae
<b>Week 11</b>	Central Differences: Gauss forward and Gauss backward interpolation formulae, Sterling formula, Bessel's formula. Piecewise linear interpolation
<b>Week 12</b>	Cubic spline interpolation. Numerical Differentiation: First and second derivative of a function using interpolation formulae
<b>Week 13</b>	Numerical Integration: Newton-Cote's Quadrature formula, Trapezoidal rule, Simpson's one-third and three-eighth rule, Chebychev formula,
<b>Week 14</b>	Gauss Quadrature formula. Numerical solution of ordinary differential equations
<b>Week 15</b>	Runge-Kutta Method. Multiple step methods: Predictor-corrector method, Modified Euler's method

### EXAMINATIONS

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## LESSON PLAN

Name of Assistant Professor: Ms. Mamtesh Rani

Class: B.A.1<sup>st</sup> (Semester-2nd)

Subject: MDC Math (Mathematics for Commerce and Social Sciences)

Session: 2025-26

<b>Week 1</b>	Matrices and Determinants: Definition of a matrix, Order, Equality, Types of matrices, Operations on matrices: addition, multiplication and multiplication with a scalar
<b>Week 2</b>	Minors, Co-factors, Determinant, Properties of determinants and applications of determinants in finding the area of a triangle
<b>Week 3</b>	Adjoint and inverse of a square matrix, Solutions of simultaneous linear equations.
<b>Week 4</b>	Differentiation, Derivatives of simple functions and other functions having applications in business and social studies
<b>Week 5</b>	Maxima and minima of a function and their applications to Revenue, Cost, Demand, Production,
<b>Week 6</b>	Profit functions and other functions related to commercial and social Problems
<b>Week 7</b>	Integration of simple functions and its applications in commercial and economic problems
<b>Week 8</b>	Simple interest and compound interest. Annuities: Types of annuities
<b>Week 9</b>	Present value and amount of an annuity
<b>Week 10</b>	Valuation of simple loans and debentures
<b>Week 11</b>	Problems related to sinking funds.
<b>Week 12</b>	Linear Programming: Formulation of linear programming problems (LPP)
<b>Week 13</b>	solution by graphical and Simplex methods
<b>Week 14</b>	Applications of linear programming in solving social science and business problems.
<b>Week 15</b>	revision
<b>EXAMINATIONS</b>	

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## LESSON PLAN

Name of Assistant Professor: Ms. Mamtesh Rani

Class: B.A.2<sup>nd</sup> (Semester-4<sup>th</sup>)

Subject: VAC Math (MATHEMATICS IN EVERYDAY LIFE)

Session: 2025-26

<b>Week 1</b>	Simple interest, Compound interest
<b>Week 2</b>	Equated monthly installment (EMI)
<b>Week 3</b>	Direct tax calculation
<b>Week 4</b>	Profit and loss, Work, time and distance
<b>Week 5</b>	Coding and Decoding, Ratio and proportion
<b>Week 6</b>	Trigonometry and its applications
<b>Week 7</b>	Mensuration for practical purposes
<b>Week 8</b>	Sequence and series, Arithmetic progression, Geometric progression
<b>Week 9</b>	Permutation and combinations (simple problems).
<b>Week 10</b>	Mean, Mode, Median, Standard deviation
<b>Week 11</b>	Variance. Bar graphs, Pie charts, Frequency polygons
<b>Week 12</b>	Ogive CURVE
<b>Week 13</b>	Linear equation in two variables
<b>Week 14</b>	Linear programming problems (LPP): Graphical solution
<b>Week 15</b>	REVISION
<b>EXAMINATIONS</b>	

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