

Lesson Plan
Session: 2025-26

Name of the Assistant Professor: Ankit Kumar

Class: B.A./B.Sc. 2nd Sem

Subject: Mathematics

Paper: Algebra and Number Theory (BA/BSC/MD/MAT/2/DSC/102)

Dates	Week	Topic
06.01.2026 to 10.01.26	1	Introduction to Syllabus, Matrices, Types, Adjoint, Inverse (Theorems, problems)
12.01.2026 to 17.01.26	2	Symmetric, Skew symmetric, Hermitian, Skew Hermitian matrices., Rank of a matrix
19.01.2026 to 24.01.26	3	Elementary operations on matrices, Normal form, Dependence and Independence of vectors.
27.01.2026 to 31.01.26	4	Eigen Values, Eigen Vectors, Characteristic Equation of matrix, Minimal polynomial.
02.02.2026 to 07.02.26	5	Cayley Hamilton's theorem, its use in finding the inverse of a matrix.
09.02.2026 to 14.02.26	6	Unitary and Orthogonal matrices (Theorems, problems)
16.02.2026 to 21.02.26	7	Relations between the roots and coefficients of general polynomial equation.
23.02.2026 to 28.02.26	8	Solutions of polynomial equations having conditions on roots, Common roots, multiple roots.

Dates	Week	Topic
09.03.2026 to 14.03.26	9	Transformation of Equations Nature of roots of an equation.
16.03.2026 to 21.03.26	10	Descartes's rule of Signs Solutions of Cubic equations (Cardan's method)
23.03.2026 to 28.03.26	11	Biquadratic Equations and their solutions, Ferrari method.
30.03.2026 to 04.04.26	12	Divisibility, Greatest common divisor, Least common multiple, Prime numbers
06.04.2026 to 11.04.26	13	Fundamental theorem of arithmetic Linear Congruences
13.04.26 To 18.04.26	14	Fermat's Theorem, Euler's theorem Wilson's theorem
20.04.2026 to 25.04.26	15	Chinese Remainder theorem Linear Diophantine equations
27.04.2026 to 05.05.26	16	Revision

Ankit
Signature

Lesson Plan
Session: 2025-26

Name of the Assistant Professor: Ankit Kumar

Class: B.A./ B.Sc. 2nd Sem

Subject: Mathematics (SEC)

Paper: Programming in C & Numerical Methods (CDLU/SEC/MAT/2/10)

Date:s	Week	Topic
06.01.2026 to 10.01.26	1	Introduction to syllabus
12.01.2026 to 17.01.26	2	Programmer's model of a computer
19.01.2026 to 24.01.26	3	<ul style="list-style-type: none">• Algorithms (advantages, limitations)• flow charts (def., advantages, limitations)
27.01.2026 to 31.01.26	4	<ul style="list-style-type: none">• Data types (Introduction to C)• keywords, constants, etc.
02.02.2026 to 07.02.26	5	<ul style="list-style-type: none">• operators (types of operators)• Expressions
09.02.2026 to 14.02.26	6	<ul style="list-style-type: none">• Decision statements, logical and condition statements.
16.02.2026 to 21.02.26	7	<ul style="list-style-type: none">• Implementation of loops (for loop, while loop, do while loop & their syntax)
23.02.2026 to 28.02.26	8	<ul style="list-style-type: none">• Switch statement, Case Control structures, functions, (definition, syntax, declaration, calling, local, global variables)

Dates	Week	Topic
09.03.2026 to 14.03.26	9	Preprocessor, Arrays, (definition, types) one dimensional, two dimensional arrays. etc.
16.03.2026 to 21.03.26	10	Solutions of algebraic and Transcendental equations.
23.03.2026 to 28.03.26	11	Bisection method, Regula falsi method
30.03.2026 to 04.04.26	12	Secant's method Newton-Raphson's method
06.04.2026 to 11.04.26	13	Solution of simultaneous linear algebraic equations: Gauss-elimination method
13.04.26 To 18.04.26	14	Gauss Jordan's method
20.04.2026 to 25.04.26	15	Triangularization method LU decomposition method
27.04.2026 to 05.05.26	16	Revision

Antit
Signature

Lesson Plan
Session: 2025-26

Name of the Assistant Professor: Ankit Kumar

Class: B.A./B.Sc. 6th Sem.

Subject: Mathematics

Paper: Real and Complex Analysis

Dates	Week	Topic
06.01.2026 to 10.01.26	1	• Introduction to Syllabus Jacobians, Chain Rule.
12.01.2026 to 17.01.26	2	• functionally dependence, independence. Beta and Gamma functions (Definition & Properties)
19.01.2026 to 24.01.26	3	• Problems based on Beta and Gamma functions (Duplication formula, $\Gamma(\frac{1}{2}) = \sqrt{\pi}$ etc.)
27.01.2026 to 31.01.26	4	• Evaluation of Double and Triple Integrals.
02.02.2026 to 07.02.26	5	• Application of Double and Triple Integrals for finding area and volume
09.02.2026 to 14.02.26	6	Changing the order of Integration. Introduction to fourier series expansion.
16.02.2026 to 21.02.26	7	fourier Series, Dirichlet's condition, fourier coefficients, Problems based on fourier series expansion
23.02.2026 to 28.02.26	8	• change of interval • Half Range Sine series & cosine series

Dates	Week	Topic
09.03.2026 to 14.03.26	9	<ul style="list-style-type: none"> Calculus of Complex functions Stereographic projection, limits and continuity
16.03.2026 to 21.03.26	10	Analytic function, Harmonic functions Cauchy Riemann Equations
23.03.2026 to 28.03.26	11	Construction of analytic functions using Milne's Thompson method.
30.03.2026 to 04.04.26	12	<ul style="list-style-type: none"> Properties of Elementary functions Mappings or Transformations (Translation, Rotation, magnification)
06.04.2026 to 11.04.26	13	<ul style="list-style-type: none"> Conformal mapping Mobius transformations Cross ratio, fixed points, nature etc.
13.04.26 To 18.04.26	14	Problems on Mobius transformations critical mappings
20.04.2026 to 25.04.26	15	Problems on exponential, trigonometric, Linear fractional transformations.
27.04.2026 to 05.05.26	16	Revision

Ankit
Signature

Lesson Plan
Session: 2025-26

Name of the Assistant Professor: Ankit Kumar

Class: B.A./ B.Sc. 6th Sem

Subject: Mathematics

Paper : Dynamics

Dates	Week	Topic
06.01.2026 to 10.01.26	1	Introduction to syllabus , Preliminaries
12.01.2026 to 17.01.26	2	Motion along a plane curve, velocity & acceleration along radial, transverse, tangential, normal directions
19.01.2026 to 24.01.26	3	Relative motion, Relative velocity and acceleration Simple Harmonic motion.
27.01.2026 to 31.01.26	4	Elastic Strings, Hooke's Law, Horizontal elastic string, vertical elastic string
02.02.2026 to 07.02.26	5	Newton's laws of motion, Pressure of a body resting on a Horizontal plane
09.02.2026 to 14.02.26	6	Motion of two bodies connected by a string, Work done in stretching an elastic string.
16.02.2026 to 21.02.26	7	Work, Energy, Power (definitions, units), Principle of work - energy.
23.02.2026 to 28.02.26	8	Motion of a particle on smooth and rough plane curves.

Dates	Week	Topic
09.03.2026 to 14.03.26	9	Cycloidal motion, motion on a rough curve under gravity
16.03.2026 to 21.03.26	10	Projectile motion, (Time of flight, Horizontal Range) Velocity at any point of Trajectory etc.
23.03.2026 to 28.03.26	11	Directions of projection for a particle to hit a given point, Projectile motion on inclined plane
30.03.2026 to 04.04.26	12	Central Orbits, apse, apsidal distances, (Differential form)
06.04.2026 to 11.04.26	13	Related theorems and problems. Kepler's Law of planetary motion
13.04.26 To 18.04.26	14	Motion under inverse square law Problems related to Kepler's law.
20.04.2026 to 25.04.26	15	motion of a particle in 3-D.
27.04.2026 to 05.05.26	16	Revision (short questions, PYQs)

Antit.
Signature