

Lesson Plan

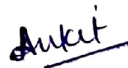
Session: 2024-25

Name of the Assistant Professor: Mr. Ankit Kumar
Class: B.A./ B.Sc. 2nd semester

Subject: Maths
Paper: Programming in C & Numerical Methods
(SEC)

Dates	Week	Topics
11.01.2025 to 18.01.25	1	• Introduction to solution of algebraic and Transcendental equations. • Descarte's rule of signs, Location of Roots.
20.01.25 To 25.01.25	2	• Bisection method • Regula falsi method
27.01.25 To 01.02.25	3	• Secant method • Newton Raphson Method
03.02.25 To 08.02.25	4	• Order of convergence • order of Convergence of Regula falsi & Newton Raphson method
10.02.25 To 15.02.25	5	• Simultaneous Linear Algebraic equations • Gauss elimination method • Gauss Jordan method.
17.02.25 To 22.02.25	6	• Triangularisation (LU Decomposition Method) • Dolittle's, Crout's method
24.02.25 To 01.03.25	7	• Cholesky method • To find inverse of a matrix • To solve system of equations.

Dates	Week	Topics
03.03.25 To 08.03.25	8	• Computer's : A General Introduction • Introduction to C-language
17.03.25 To 22.03.25	9	• Data types • operators and Expressions
24.03.25 To 29.03.25	10	• Decision control structures • If , If-else, Nested if , switch statements
31.03.25 To 05.04.25	11	• Decision Control structures related programs • Loops , Types of loops
07.04.25 To 12.04.25	12	• Nested control structures • Related programs
14.04.25 To 19.04.25	13	• Functions ; Introduction, definition , call, declaration • Local , global variables
21.04.25 To 26.04.25	14	• Arrays ; Types , declaration , initialization , • Related programs.
28.04.25 To 30.04.25	15	Revision


 Mr. Ankit Kumar
 Deptt. Of Mathematics

Lesson Plan

Session: 2024-25

Name of the Assistant Professor: Mr. Ankit Kumar
Class: B.A./ B.Sc. 4th semester

Subject: Maths
Paper: Programming in C and Numerical Methods

Dates	Week	Topics
11.01.2025 to 18.01.25	1	Introduction to solution of algebraic and Transcendental equations. Descarte's rule of signs, Location of Roots.
20.01.25 To 25.01.25	2	• Bisection method • Method of Regula falsi / false position.
27.01.25 To 01.02.25	3	• Secant method • Newton Raphson method
03.02.25 To 08.02.25	4	• Order of convergence • Order of Convergence of Regula falsi, Newton Raphson's method
10.02.25 To 15.02.25	5	• Simultaneous Linear Algebraic equations • Gauss elimination method • Gauss Jordan's method
17.02.25 To 22.02.25	6	• LU Decomposition method • Crout's, Dolittle method. • Cholesky's method
24.02.25 To 01.03.25	7	• Gauss Jacobi Method • Gauss Seidel method • Relaxation method.

Dates	Week	Topics
03.03.25 To 08.03.25	8	- Computers : A General Introduction - Introduction to C language
17.03.25 To 22.03.25	9	- Data types - Operators and expressions
24.03.25 To 29.03.25	10	- Decision Control Structures - if, if else, switch statements. - Related programs
31.03.25 To 05.04.25	11	- Loops, types of loops - Nested Control Structures
07.04.25 To 12.04.25	12	- functions ; Introduction, advantages, definition, call, declaration - C preprocessor
14.04.25 To 19.04.25	13	- Arrays : Types, declaration, initialization - Strings : character data type, standard string handling functions
21.04.25 To 26.04.25	14	- Structures : Definition, use of structures in arrays - Pointers
28.04.25 To 30.04.25	15	Revision

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Session: 2024-25

Name of the Assistant Professor: Mr. Ankit Kumar

Subject: Maths

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

Paper: Dynamics

Dates	Week	Topics
11.01.2025 to 18.01.25	1	• Introduction to Dynamics • Preliminaries
20.01.25 To 25.01.25	2	• Motion along a plane curve • Radial & Transverse } (velocity & acceleration) • Tangential & Normal }
27.01.25 To 01.02.25	3	• Relative motion • Simple Harmonic motion
03.02.25 To 08.02.25	4	• Elastic Strings • Hooke's law, Horizontal, vertical Elastic strings
10.02.25 To 15.02.25	5	• Newton's Laws of motion • Motion of two bodies connected by a string
17.02.25 To 22.02.25	6	• motion on a smooth horizontal plane • motion on a rough horizontal plane
24.02.25 To 01.03.25	7	• Work, power & Energy • Principle of work and Energy

Dates	Week	Topics
03.03.25 To 08.03.25	8	• Motion of a particle on smooth and rough plane curves.
17.03.25 To 22.03.25	9	• Projectile motion • Time of flight, Horizontal Range, Greatest Height
24.03.25 To 29.03.25	10	• Velocity at any point of the trajectory. • Directions of projection to hit given point.
31.03.25 To 05.04.25	11	• Projectile motion on an inclined plane • Central orbits, Diff. equation of central orbit
07.04.25 To 12.04.25	12	• To determine the orbit when law of Central force is given
14.04.25 To 19.04.25	13	• Apse and apsidal distances • Kepler's laws of planetary motion
21.04.25 To 26.04.25	14	• Motion of a particle in three dimension
28.04.25 To 30.04.25	15	• Revision


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Lesson Plan

Session: 2024-25

Name of the Assistant Professor: Mr. Ankit Kumar
Class: B.A./ B.Sc. 4th semester

Subject: Maths
Paper: Special Functions & Integral Transforms

Dates	Week	Topics
11.01.2025 to 18.01.25	1	• Introduction to Laplace Transforms • Existence theorem for Laplace transforms
20.01.25 To 25.01.25	2	• Linearity of the Laplace transforms • Shifting theorems
27.01.25 To 01.02.25	3	• Laplace transforms of derivatives. • Laplace transforms of Integrals
03.02.25 To 08.02.25	4	• Differentiation of Laplace transforms • Integrating of Laplace transforms
10.02.25 To 15.02.25	5	• Laplace transforms of some important functions • Inverse Laplace transforms
17.02.25 To 22.02.25	6	• Convolution theorem • Inverse Laplace transforms of derivatives and integrals
24.02.25 To 01.03.25	7	• Solution of differential equations by Laplace transformation.

Dates	Week	Topics
03.03.25 To 08.03.25	8	• Solution of ordinary differential equations by Laplace transformation (variable coefficients)
17.03.25 To 22.03.25	9	• Fourier Transforms • Properties of Fourier transforms
24.03.25 To 29.03.25	10	• Some examples based on Fourier sine and Fourier cosine transforms
31.03.25 To 05.04.25	11	• Some examples based on use of Fourier inverse transforms
07.04.25 To 12.04.25	12	• Convolution theorem • Parseval's Identity for Fourier transforms
14.04.25 To 19.04.25	13	• Solution of Differential equations by Fourier transforms
21.04.25 To 26.04.25	14	• Solution of Differential equations by Fourier transforms continued.
28.04.25 To 30.04.25	15	Revision

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Lesson Plan

Session: 2024-25

Name of the Assistant Professor: Mr. Ankit Kumar
Class: B.A./ B.Sc. 6th semester

Subject: Maths
Paper: Real and Complex Analysis

Dates	Week	Topics
11.01.2025 to 18.01.25	1	• Introduction to calculus of complex functions • Stereographic projection of complex numbers
20.01.25 To 25.01.25	2	• functions of a complex variable • Limits, continuity, uniform continuity, differentiability.
27.01.25 To 01.02.25	3	• Analytic function • C-R equations
03.02.25 To 08.02.25	4	• Harmonic functions • Construction of analytic functions
10.02.25 To 15.02.25	5	• Applications of analytic functions to field and flow problems. • Elementary functions.
17.02.25 To 22.02.25	6	• conformal mapping • Mobius transformation
24.02.25 To 01.03.25	7	• Cross Ratio, inverse points of a Mobius transformation • Findings of image under Mobius transformation

Dates	Week	Topics
03.03.25 To 08.03.25	8	- Problems on Mobius transformation - Continued.
17.03.25 To 22.03.25	9	- Critical mapping - Problems on Mobius transformation
24.03.25 To 29.03.25	10	- Logarithmic transformation - Trigonometric transformations
31.03.25 To 05.04.25	11	Transformations of type $w = z^n$, $w = z^2$, $z = \sqrt{w}$, $w = z + \frac{1}{z}$
07.04.25 To 12.04.25	12	Problems on critical mapping
14.04.25 To 19.04.25	13	Some more mappings.
21.04.25 To 26.04.25	14	- Revision of short answer type questions, - Revision of previous year question papers.
28.04.25 To 30.04.25	15	Revision

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