

LESSON PLAN (2022- 2023)

Name of Teacher – Ms. Nishu Gupta

Subject: - Mathematics

Paper – Vector Calculus

Class – BA/BSC 1st year

Session:- 2022-2023 (Even Sem.)

Weeks With Months	Contents
Jan 31 – Feb 4	Previous Question Paper and Exam Pattern was discussed
Feb 6- Feb 11	Scalar and vector product of three vectors, product of four vectors.
Feb 13 - Feb17	Reciprocal vectors. Vector differentiation.
Feb 20 – Feb 25	Scalar Valued point functions, vector valued point functions, derivative along a curve, directional derivatives
Feb 27- March 04	Gradient of a scalar point function, geometrical interpretation of grad Φ ,
March 06 - March 11	Character of gradient as a point function.
March 13 – March 18	Divergence and curl of vector point function, characters of Div $f\rho$ and Curl $f\rho$ as point function, examples.
March 20 - March 25	Gradient, divergence and curl of sums and product and their related vector identities. Laplacian operator
March 27 - April 01	Orthogonal curvilinear coordinates Conditions for orthogonality fundamental triad of mutually orthogonal unit vectors.
April 03 – April 08	Gradient, Divergence, Curl
April 10 - April 15	Laplacian operators in terms of orthogonal curvilinear coordinates,
April 17 - April 22	Cylindrical co-ordinates and Spherical co- ordinates.
April 24 - April 29	Vector integration; Line integral.
May 01 - May 06	Surface integral, Volume integral.
May 08 - May 13	Theorems of Gauss, Green & Stokes and problems based on these theorems.
May 15 – May 19	Revision and Class test

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LESSON PLAN (2022-23)

Name of Teacher – Ms Nishu Gupta

Subject: - Mathematics

Paper – Programming in C & Numerical Methods

Class – BA/BSC 2nd

Session:- 2022-2023 (Even Sem.)

Weeks With Months	Contents
Jan 31 – Feb 4	Previous Question Paper and Exam Pattern was discussed
Feb 6- Feb 11	Programmer's model of a computer, Algorithms, Flow charts
Feb 13 - Feb17	Data types, Operators and expressions
Feb 20 – Feb 25	Input / outputs functions. Practice of making Basic programs of C language
Feb 27- March 04	Decisions control structure: Decision statements
March 06 - March 11	Logical and conditional statements, Implementation of Loop
March 13 – March 18	Switch Statement & Case control structures.
March 20 - March 25	Functions, Preprocessors and Arrays
March 27 - April 01	Strings: Character Data Type, Standard String handling Functions, Arithmetic Operations on Characters.
April 03 – April 08	Structures: Definition, using Structures, use of Structures in Arrays and Arrays in Structures.
April 10 - April 15	Pointers: Pointers Data type, Pointers and Arrays, Pointers and Functions
April 17 - April 22	Solution of Algebraic and Transcendental equations: Bisection method, Regula-Falsi method, Secant method, Newton-Raphson's method
April 24 - April 29	Newton's iterative method for finding pth root of a number, Order of convergence of above methods.
May 01 - May 06	Simultaneous linear algebraic equations: Gauss-elimination method, Gauss-Jordan method, Triangularization method (LU decomposition method). Crout's method
May 08 - May 13	Cholesky Decomposition method. Iterative method, Jacobi's method, Gauss-Seidal's method, Relaxation method.
May 15 – May 19	Revision and Test

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LESSON PLAN (Even Sem 2022-23)

Name of Teacher – Ms Nishu Gupta

Paper – Dynamics

Class – BA/BSC 3rd

Subject: - Mathematics

Session:- 2022-2023 (Even Sem.)

Weeks With Months	Contents
Jan 31 – Feb 4	Previous Question Paper and Exam Pattern was discussed
Feb 6- Feb 11	Velocity and acceleration along radial and transverse velocity
Feb 13 - Feb 17	Examples and Exercise
Feb 20 – Feb 25	Acceleration along tangent and normal directions
Feb 27- March 04	Relative velocity and acceleration
March 06 - March 11	Simple Harmonic motion Examples and Exercise
March 13 – March 18	Elastic Strings Examples and Exercise
March 20 - March 25	Mass, Momentum and Force Examples and Exercise
March 27 - April 01	Newton laws of motion Examples and Exercise
April 03 – April 08	Work, Power and Energy Examples and Exercise
April 10 - April 15	Definition of Conservative forces Examples and Exercise
April 17 - April 22	Impulsive forces Examples and Exercise
April 24 - April 29	Motion on smooth and rough plane curves Projectile motion of a particle in a plane Examples and Exercise
May 01 - May 06	Vector angular velocity , General motion of a rigid body Examples and Exercise
May 08 - May 13	Central Orbits, Kepler's laws of motion, Motion of a particle in three dimension, Acceleration in terms of different coordinate systems Examples and Exercise
May 15 – May 19	Revision and class test