Maharana Pratap Mahavidyalaya, Jungle Dhusan, Gorakhpur

B Sc IST Semester (PHYSICS MAJORCOURSE)

[2022-23]

DATE	LECT NO	TEACHER NAME		UNIT NAME	TOPIC NAME
04/08/2022	1	AV		DYANMICS OF RIGID BODY	Angular momentum, Torque, Rotational energy and the inertia tensor.
05/08/2022	1	SKT		Vector Algebra	Coordinate rotation, reflection and inversion as the basis for defining scalars, vectors,
06/08/2022	2	SKT		Vector Algebra	pseudo- scalars and pseudo-vectors (include physical examples). Component form in 2D and 3D.
08/08/2022		AV			CT
13/08/2022	3	SKT		Vector Algebra	Geometrical and physical interpretation of addition, subtraction, dot product, wedge product,
16/08/2022	4	SKT		Vector Algebra	cross product and triple product of vectors. Position, separation and displacement vectors.
17/08/2022	2	AV		DYANMICS OF RIGID BODY	Rotational inertia for simple bodies (ring, disk, rod, solid and hollow sphere, solid and hollow cylinder, rectangular lamina).
19/08/2022	3	AV			CT
23/08/2022	5	SKT		VECTOR CALCULUS	Geometrical and physical interpretation of vector differentiation, Gradient, Divergence and Curl and their significance.
24/08/2022	4	AV		DYANMICS OF RIGID BODY	The combined translational and rotational motion of a rigid body on horizontal and inclined planes.
25/08/2022	5	AV		DYANMICS OF RIGID BODY	Elasticity, relations between elastic constants, bending of beam and torsion of cylinder.
26/08/2022		SKT			CT
29/08/2022	6	AV			MONTHLY EVALUATION
01/09/2022	6	SKT		VECTOR CALCULUS	Vector integration, Line, Surface (flux) and Volume integrals of vector fields.
02/09/2022	7	SKT		VECTOR CALCULUS	Gradient theorem, Gauss-divergence theorem, Stoke-curl theorem,
03/09/2022	7	AV		DYANMICS OF SYSTEM OF PARTICLES	Review of historical development of mechanics up to Newton. Background,
05/09/2022	8	AV			CT
10/09/2022	8	SKT		VECTOR CALCULUS	Greens theorem and Helmholtz theorem (statement only). Introduction to Dirac delta function,
12/09/2022	9	AV		DYANMICS OF SYSTEM OF PARTICLES	statement and critical analysis of Newton's axioms of motion. Dynamics of a system of particles,

13/09/2022	10	AV		DYANMICS OF SYSTEM OF PARTICLES	conservation laws & their deductions. Rotating frames of reference, centre of mass motion
15/09/2022	9	SKT			CT
20/09/2022	10	SKT		COORDINATE SYSTEM	2D & 3D Cartesian, Spherical and Cylindrical coordinate systems, basis vectors,
21/09/2022	11	AV		DYANMICS OF SYSTEM OF PARTICLES	general derivation of origin of pseudo forces in rotating frame, and effects of Coriolis force.
22/09/2022	12	AV		MOTION OF PLANETS AND SATELLITES	Two particle central force problem, reduced mass, relative and centre of mass motion.
23/09/2022		SKT			CT
27/09/2022	13	AV		MOTION OF PLANETS AND SATELLITES	Newton's law of gravitation, gravitational field and gravitational potential.
28/09/2022	14	AV		MOTION OF PLANETS AND SATELLITES	Kepler's laws of planetary motion and their deductions
29/09/2022	11	SKT		COORDINATE SYSTEM	transformation equations. Expressions for displacement vector, arc length, area element, volume element,
30/09/2022	15	AV			CT
08/10/2022					MONTHLY EVALUATION
10/10/2022	12	SKT		COORDINATE SYSTEM	gradient, divergence and curl in different coordinate systems Components of velocity and acceleration in different coordinate systems. Examples
11/09/2022	16	AV		MOTION OF PLANETS AND SATELLITES	Motions of geo-synchronous & geo-stationary satellites and basic idea of Global Positioning System (GPS).
12/10/2022	17	AV		WAVE MOTION	Differential equation of simple harmonic motion and its solution, use of complex notation,
15/10/2022	13	SKT			CT
17/10/2022	14	SKT		INTRODUCTION TO TENSORS	Invariant tensors, Kronecker delta and Epsilon (Levi Civita) tensors. Examples of tensors in physics.
18/10/2022	18	AV		WAVE MOTION	damped and forced oscillations, Quality factor. Composition of simple harmonic motion,
19/10/2022	19	AV		WAVE MOTION	Lissajous figures. Differential equation of wave motion. Plane progressive waves in fluid media,
29/10/2022		SKT			MONTHLY EVALUATION