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(Lesson Plan)

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session – (2021-2022)

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Name of the Teacher   Dr. Swati Khatta

Department   Department of Physics
Class B.Sc. I   Subject   Mechanics-I   Section(s) N.M & Vocational

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	**To**		
1.	1st Sept. 2021	30th Sept. 2021	Cartesian and spherical polar coordinate, Two and Three dimensional coordinate systems.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
2.	1st Oct. 2021	31st Oct. 2021	Area, volume, displacement, velocity and acceleration of these systems and solid angle, Centre of mass, linear momentum and angular momentum. Torque, potential energy and kinetic energy of a system of particles.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
3.	1st Nov. 2021	30th Nov. 2021	Relationship of conservation laws of linear momentum, angular momentum and energy, and symmetries of space and time. Various forces in nature, relative strengths and spatial dependence, Motion under force obeying inverse square law, equivalent one body problem. Motion under central forces, equation of motion under central force, equation of orbit and turning points, Kepler's Laws.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
4.	1st Dec. 2021	16th Dec.2021	Elastic collision in Lab. and C.M. systems, Relationships of velocities, angles, and kinetic energies in these two systems, cross section of elastic scattering, Rutherford scattering	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems

Name of the Teacher   **Dr. Swati Khatta**

Department   **Department of Physics**
Class B.Sc. I   Subject   Mechanics-II   Section(s) N.M & Vocational

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	**To**		
1.	3rd Feb.2022	28th Feb.2022	Rigid Body motion; Rotational motion, principal moments and Axes, Euler's equations, precession and elementary gyroscope. Galilean transformations and Invariance, Transformation equations for inertial frames inclined to each other.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
2.	01st Mar.2022	31th Mar.2022	Non-Inertial frames. Fictitious forces in a rotating frames of reference, Centrifugal and Coriolis forces due to rotation of earth, Foucault's pendulum. Concept of stationery universal frame of reference and ether, Michelson-Morley experiment and its results.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
3.	01st Apr. 2022	30th Apr. 2022	Postulates of special theory of relativity, Lorentz transformations. Kinematical consequences of Lorentz transformations – length contraction and time dilation, Twin paradox, Transformation of velocities, Simultaneity of relativity, Velocity of light in moving fluid, Relativistic Doppler effect.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems
4.	01stMay 2022	25th May 2022	Variation of mass with velocity, mass-energy equivalence, rest mass in an inelastic collision, relativistic momentum & energy, their transformation, concepts of Minkowski space, four vector formulation.	(i) Lecture method (ii) PPt (iii) Group discussion (iv) Notes (v) Numerical Problems