Lesson Plan

Physics- PH-201

Paper –III: Properties of Matter and Kinetic Theory of Gases

Teacher name: Niyti

April 2021

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| Rotation of rigid body, Moment of inertial, Torque, angular momentum, Kinetic Energy of rotation. Theorem of perpendicular and parallel axes (with proof), Moment of inertia of solid sphere, hollow sphere, spherical shell, solid cylinder, hollow cylinder and solid bar of rectangular cross–section, Fly wheel, Moment of inertia of an irregular body, Acceleration of a body rolling down on an inclined plane.  |

May 2021

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| Unit 2: Elasticity Elasticity, Stress and Strain, Hook’s law, Elastic constant and their relations, Poisson’s ratio, Torsion of cylinder and twisting couple, Determination of coefficient of modulus of rigidity for the material of wire by Maxwell’s needle, Bending of beam (Bending moment and its magnitude), Cantilever and Centrally loaded beam, Determination of Young’s modulus for the material of the beam and Elastic constants for the material of the wire by Searle’s method. |

June 2021

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| Unit 3: Kinetic theory of gases-I Assumption of Kinetic theory of gases, pressure of an ideal gas (with derivation), Kinetic interpretation of Temperature, Ideal Gas equation, Degree of freedom, Law of equipartition of energy and its application for specific heat of gases, Real gases, Vander wall’s equation, Brownian motion( Qualitative) Unit 4: Kinetic theory of gases-II Maxwell’s distribution of speed and velocities (derivation required), |

July 2021

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| Experimental verification of Maxwell’s law of speed distribution: most probable speed, average and r.m.s. speed, Mean free path, Transport of energy and momentum, Diffusion of gases. |