**Lesson Plan & Execution**

Faculty:-Dr. Surender Semester- II Class: B.Sc.

Course Code:- PHY- 201 Course Title:- Properties of Matter Kinetic Theory And Relativity Session: 2023-2024

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| **S. No.** | **Day** | **Unit** | | **Topic** | | **Status** | | **Sign** | |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40 | 1  2  3  4  5  6  7  7  8  9  10  11  12  13  14  15  16  17  18  20  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40 | | I  I  I  I  I  I  I  I  I  II  II  II  II  II  II  II  II  II  II  II    II    II    II  II  III  III  III  III  III  III  III  III  III  III  III  III  III  III  III  III  III | | Rigid body, Perfectly elastic body, perfectly plastic body, stress and its type.  Strain and its types, Hook’s law  Type of elasticity, Poisson’s ratio.  Relation between elastic constants.  Torsion of cylinder and twisting couple  Bending of beam.  **Test & Assignment**  Centrally loaded beam  Cantilevers  Assumptions of Kinetic Theory of gases  Expression of pressure of gas  Kinetic interpretation of tempreture  Law of equipartition of energy and its applications for specific heats of gases.  Experimental verification of Maxwell’s Law of speed distribution most probable speed  Maxwell distribution of speeds and velocities (derivation required).  Average and R.M.S. speed  Mean free path**.**  Transport phenomena**.**  Transport of momentum  **Test & Assignment**  Transport of energy**.**  Transport of mass.  Brownian motion.  Real gases  Vander Waal’s equation  Define partial, events, and observer**.**  Frame of reference, Inertial frame of reference, Non-inertial frame of reference**.**  Variant quantities, invariant quantities**.**  Measurement of length, measurement of velocity**.**  Measurement of acceleration**.**  Conservation of momentum and conservation of energy**.**  Galilean transformation**.**  Michelson and Morley experiment  Lorentz transformation**.**    Length contraction  Time Dilation.  Addition of Velocities  Variation of Mass With Velocity  Relation between relativistic momentum and energy.  Test And Assignment  Revision | | Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed  Completed | |  | |