

**PHYSICS SEMESTER-I**  
**COURSE -1: MECHANICS**

**BLOCK-I: MECHANICS OF PARTICLES**

- UNIT-1: Introduction to Vectors
- UNIT-2: Vector Calculus
- UNIT-3: Linear Momentum and Collisions
- UNIT-4: Kinematics

**BLOCK-II: MECHANICS OF RIGID BODIES**

- UNIT-5: Centre of Mass, Motion of Centre of Mass, Reduced Mass
- UNIT-6: Torque and Rotational Motion
- UNIT-7: Conservation of Angular Momentum

**BLOCK-III: CENTRAL FORCES**

- UNIT-8: Introduction to Central forces
- UNIT-9: Motion of Planets and Satellites Keplers Laws.
- UNIT-10: Gravitational Field and Gravitational Potential

**BLOCK-IV: RELATIVITY**

- UNIT-11: Special Theory of Relativity
- UNIT-12: Applications of special theory of Relativity

**B.Sc Physics-Practicals**

**SEMESTER- I LAB-1: MECHANICS**

1. Statistical Analysis of Errors.
2. Force constant of a Spiral spring by Statistic and Dynamic Methods.
3. Elastics constants of material of a Spiral Spring.
4. Moment of Inertia of a Fly Wheel.
5. 'Y' by uniform bending.
6. Viscosity of a Liquid.
7. Rigidity modulus by Torsional Pendulum.
8. Determination of surface tension of a liquid through capillary rise method.