# Appendix – 2

**Course Outcomes:** Students will be able to understand the concepts of Mechanics, Physics of matter, Electricity and Magnetism, Electromagnetic waves and Optics.

| Sl. No. | Topics | CO1 | | | | CO2 | | | | CO3 | | | | CO4 | | | | CO5 | | | | Total Hrs | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Unit-1 Mechanics: 10 Hrs (Hours) Lecture Hours** | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Introduction to Mechanics, Newton's laws of motion, Inertial and non-inertial frames, Galilean transformations, Fundamental forces in nature, Conservation laws, Linear momentum, Angular momentum, Conservation of linear and angular momentum, Conservation of energy, Work and energy, Collisions, Collisions in two dimensions, Elastic and inelastic collisions, Collisions in the laboratory and in the centre of mass frame, Rutherford scattering and its dependence on the impact parameter, Rutherford scattering formula, Rutherford scattering experiment, Rutherford scattering and its dependence on the impact parameter, Rutherford scattering formula, Rutherford scattering experiment, | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Rotation, Angular momentum, Moment of inertia, Torque, Rigid body, Moment of inertia, Torque, Rigid body, Moment of inertia, Torque, Rigid body

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