Sem. IV

Paper I MN-PH (TH) – 401 (CREDITS – 02)

Unit	Content	No. of hr
1	**Rotational Motion**	**15**
1.1	Rotational motion (8.1), the rotational variables (8.2), rotational quantities as vectors (8.3), rotation with constant angular acceleration (8.4), relationships between linear and angular variables (8.6).	8
1.2	Torques (9.1), rotational inertia and Newton's second law (9.2), rotational inertia of solid bodies (9.3), torque due to gravity (9.4), equilibrium applications of Newton's laws for rotation (9.5).	7
2	**Magneto-statics and Electromagnetic Induction**	**15**
1.1	Magneto-statics: Magnetic interactions and magnetic poles (32.1), the magnetic force on a moving charge (32.2), circulating charges (32.3), the magnetic force on a current carrying wires (32.5), the torque on a current loop (32.6).	8
1.2	Electromagnetic Induction: Faraday's experiments (34.1), Faraday's law of induction (34.2), Lenz's law (34.3), motional emf (34.4), generator and motor (34.5).	7

Reference books:

1. Physics by Halliday, Resnik and Krane, Vol. 1, 5th edition, Wiley.
2. Physics by Halliday, Resnik and Krane, Vol. 2, 5th edition, Wiley.

Bajaj