

III Semester

Core Subjects

Paper 3 – MECHANICS

UNIT- I :

Forces acting at a point – Resultant and components – Parallelogram law of forces – Triangle law of forces – Converse of triangle law of forces – Lami's Theorem.

Resolution of a force – Theorems of Resolved parts – Resultant of any number of coplanar forces – Condition of equilibrium.

UNIT- II :

Three forces acting on a rigid body – Friction.

UNIT- III :

Projectiles – Path of a Projectile – Maximum height – Time taken by a particle – Time of flight – Horizontal Range – Simple problems. Range on a inclined plane impact – Laws of impact – Impact in a Fixed plane.

UNIT- IV :

Direct and Oblique impact.

UNIT- V :

Central Orbits – Components of Velocities and accelerations along and perpendicular to radius vector – Differential equation of a central orbit – Pedal equations.

TEXT BOOKS :

1. STATICS by M.K.Venkataraman.

Publications : Agasthiyar, 10th Edition, July 2002.

2. DYNAMICS by M.K.Venkataraman.

Publications : Agasthiyar, 11th Edition, Feb 2004.