

**BM-363**  
**(Semester-VI)**

**Dynamics**

External Marks: 40/27

Internal Marks: 10/6

Time: 3 Hours

**Note: Paper setter will set nine questions in all, selecting two questions from each section and one Compulsory question consisting of five parts distributed over all four sections. Candidates are required To attempt five questions, selecting at least one question from each section and the compulsory Question.**

**Section-I**

Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings.

**Section-II**

Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces.

**Section-III**

Motion on smooth and rough plane curves. Projectile motion of a particle in a plane. Vector angular velocity.

**Section-IV**

General motion of a rigid body. Central Orbits, Kepler laws of motion. Motion of a particle in three dimensions. Acceleration in terms of different co-ordinate systems.

## REFERENCES

- S.L.Loney : An Elementary Treatise on the Dynamics of a Particle and a Rigid Bodies, Cambridge University Press, 1956
- F. Chorlton : Dynamics, CBS Publishers, New Delhi
- A.S. Ramsey: