

*New College*

# DYNAMICS

B.A./B.Sc. III  
Semester - VI

JEEVANSONS PUBLICATIONS

# **SYLLABUS**

**B. Sc. 3rd Year**

**SIXTH SEMESTER**

**DYNAMICS : (BM - 363)**

**Kurukshetra University, Kurukshetra**

Maximum Marks : 45

Time Allowed : 3 Hours

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**Note.** *The examiner is requested to set **nine questions** in all, selecting two questions from each section and **one compulsory question** consisting of five or six parts distributed over all the four sections. Candidates are required to attempt **five questions in all**, selecting **at least one question** from each section and the compulsory question.*

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## **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's laws of motion. Motion of a particle in three dimensions. Acceleration in terms of different co-ordinate systems.

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Maharishi Dayanand University, Rohtak

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**Note.** The question paper will consist of **five** sections. Each of the first four sections will contain two questions and the students shall be asked to attempt **one** question from each section. **Section-V** will contain **six** short answer type questions without any internal choice covering the entire syllabus and shall be **compulsory**.

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Pages

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2. Relative Motion

.... 2.1 - 2.12 ✓

3. ✓ Simple Harmonic Motion

.... 3.1 - 3.12 ✓

4. Elastic Strings

.... 4.1 - 4.12

5. ✓ Newton's Laws of Motion

.... 5.1 - 5.26 ✓

6. ✓ Work, Power and Energy

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7. Motion of a Particle on Smooth and Rough Plane Curves

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8. ✓ Projectiles ] 3

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10. Kepler's Laws of Planetary Motion

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11. Motion of a Particle in Three Dimension

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Kepler's Law  
Newton laws