

*New College*

# SOLID GEOMETRY



**B.A. / B.Sc. I**  
**First Semester**

**JEEVANSONS PUBLICATIONS**



# SYLLABUS

Kurukshetra University, Kurukshetra

**B.A. / B.Sc. 1st Year**

**FIRST SEMESTER**

**SOLID GEOMETRY : (BM - 113)**

*Maximum Marks : 50*

*Time Allowed : 3 Hours*

## **Section - I**

General equation of second degree. Tracing of conics. Tangent at any point to the conic. Chord of contact, pole of line to the conic, director circle of conic. System of conics. Confocal conics. Polar equation of a conic, tangent and normal to the conic.

## **Section - II**

Sphere : Plane section of a sphere. Sphere through a given circle. Intersection of two spheres, radical plane of two spheres. Co-axial system of spheres.

Cones : Right circular cone, enveloping cone and reciprocal cone.

Cylinder : Right circular cylinder and enveloping cylinder.

## **Section - III**

Central Conicoids : Equation of tangent plane. Director sphere. Normal to the conicoids. Polar plane of a point. Enveloping cone of a conicoid. Enveloping cylinder of a conicoid.

## **Section - IV**

Paraboloids : Circular section, Plane sections of conicoids.

Generating lines. Confocal conicoid. Reduction of second degree equations.

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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 parts distributed over all the four sections. Candidates are required to attempt five questions, selecting at least one question from each section and the compulsory question.*



# SYLLABUS

Maharishi Dayanand University, Rohtak

B.A. / B.Sc. 1st Year

FIRST SEMESTER

SOLID GEOMETRY : (BM - 113)

Maximum Marks : 45

Time Allowed : 3 Hours

## Section - I

General equation of second degree. Tracing of conics. Tangent at any point to the conic, chord of contact, pole of line to the conic, director of conic. System of conics. Confocal conics. Polar equation of a conic, tangent and normal to the conic.

## Section - II

Sphere : Plane section of a sphere. Sphere through a given circle. Intersection of two spheres, radical plane of two spheres. Co-axial system of spheres.

Cones : Right circular cone, enveloping cone and reciprocal cone.

Cylinder : Right circular cylinder and enveloping cylinder.

## Section - III

Central Conicoids : Equation of tangent plane, Director sphere. Normal to the conicoids. Polar plane of a point. Enveloping cone of a conicoid. Enveloping cylinder of a conicoid.

## Section - IV

Paraboloids : Circular section, Plane sections of conicoids.

Generating lines. Confocal conicoid. Reduction of second degree equations.

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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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8. <i>Cylinder</i>	189 – 198
9. <i>The Conicoid</i>	199 – 244
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11. <i>Generating Lines</i>	268 – 282
12. <i>Confocal Conicoids</i>	283 – 296
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