SYLLABUS

SOLID GEOMETRY

(P.U.)

(SEMESTER-II)

PAPER-I :

UNIT–I

Transformation of Axes

Shifting of origin and rotation of axes.

Sphere

Section of a sphere and a plane, spheres through a given circle, intersection of a line and a sphere, tangent line, tangent plane, angle of intersection of two spheres and condition of orthogonality, power of a point w.r.t. a sphere, radical axis , radical center, co-axial family of spheres, limiting points.

Cylinder

Cylinder as a surface generated by a line moving parallel to a fixed line and through a fixed curve, different kinds of cylinders such as right circular, elliptic, parabolic and hyperbolic cylinders in standard forms, enveloping cylinders.

UNIT–II

Cone

Cone with a vertex at the origin as the graph of a homogeneous equation of second degree in x, y, z, cone as a surface generated by a line passing through a fixed curve and a fixed point outside the plane of the curve, reciprocal cones, right circular and elliptic cones, right circular cone as a surface of revolution obtained by rotating the curve in a plane about an axis, enveloping cones.

Conicoid

Equations of ellipsoid, hyperboloid and paraboloid in standard form. Reduction of second degree equation in three variables in standard form.