SYLLABUS Sem-I

Paper I : PLANE GEOMETRY

Time : 3 hours **Max. Marks : 50**

Theory : 45 marks

Internal Assessment : 5 marks

UNIT-I

Transformation of axes in two dimensions : Shifting of origin, rotation of axes, invariants.

Pair of straight lines : Joint equation of pair of straight lines and angle between them. Condition of parallelism and perpendicularity, Joint equation of the angle bisectors, Joint equation of lines joining origin to the intersection of a line and a curve.

Circle : General equation of circle, Circle through intersection of two lines, Tangents, normals, chord of contact, pole and polar, pair of tangents from a point, equation of chord in terms of mid-point, angle of intersection and orthogonality, power of a point w.r.t. circle, radical axis, co-axial family of circles, limiting points.

UNIT-II

Conic : General equation of a conic, Tangents, normals, chord of contact, pole and polar, pair of tangents from a point, equation of chord in terms of mid-point, diameter. Conjugate diameters of ellipse and hyperbola, special properties of parabola, ellipse and hyperbola, conjugate hyperbola, asymptotes of hyperbola, rectangular hyperbola.