FMCC 303 Calculus& Analytical Geometry (3-1-0)

MODULE-I (14 Hours)

Asymptotes in Cartesian coordinates, intersection of curve and its asymptotes, asymptotes in polar coordinates, curvature, radius of curvature for Cartesian curves, polar curves, Newton's method, centre of curvature, circle of curvature .

MODULE-II(13 Hours)

Points of inflexion, Multiple points, Cusp, Nodes & conjugate points, Types of cusps, Tracing of curves in Cartesian, Parametric, and Polar coordinates .Trace (Folium of Descartes, Strophoid, Astroid, Cycloid, Cardioids, Lemniscates of Bernoulli)

MODULE-III(13 Hours)

General equation of the Sphere, intersection of a sphere and a plane, intersection of two spheres, family of spheres, Intersection of a sphere and a line, Tangent plane ,condition of tangency, equation of a cone , Enveloping cone of a sphere ,cylinder, Enveloping cylinder of a sphere, Right circular cone & cylinder.

Text Books:

1)Differential Calculus by Shanti Narayan & P K Mittal , S.Chand Publication

Chapters: 14 (14.1-14.5), 15, 16, 17

2) Analytical Geometry of Quadratic Surfaces by B P Acharya & D C Sahu

Chapters: 2 ,3

Reference Books:

1)Analytical Solid Geometry by Shanti Narayan

2)Topics in Calculus by Panda Satapathy