Curriculum Plan: B.Sc.(GE-II) (Semester II) (Analytic Geometry)

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Marks Distribution	**Theory**-90
	Internal Assessment-30+40
Classes Assigned	**Theory: 3 per week**

Reference	**[1]**	Essential Reading 1. Anton, Howard, Bivens, Irl, & Davis, Stephen (2013). Calculus (10th ed.). John Wiley & Sons Singapore Pte. Ltd. Indian reprint (2016) by Wiley India Pvt. Ltd. Delhi.
	[2]	2. Narayan, Shanti & Mittal, P. K. (2007). Analytical Solid Geometry. S. Chand & Company Pvt Ltd. India.
		Additional Reading
	[3]	● Bell, Robert J.T. (1972). An Elementary Treatise on Coordinate Geometry of Three Dimensions. Macmillan & Co. Ltd. London.
	[4]	● George B. Thomas, Jr., & Ross L. Finney (2012). Calculus and Analytic Geometry (9th ed.). Pearson Indian Education Services Pvt Ltd. India.
Section	**Week**	**Topics**
1	**1st week**	Techniques for sketching parabola, ellipse and hyperbola; Reflection properties of parabola,
	2nd week	ellipse, hyperbola, and their applications to signals; Classification of quadratic equation representing lines, parabola, ellipse and hyperbola;
	3rd week	Rotation of axes; Second degree equations.
	4th week	Rectangular coordinates in 3-dimensional space, vectors viewed geometrically, vectors in coordinate systems and vectors determined by length and angle;
	5th week	Rectangular coordinates in 3-dimensional space, vectors viewed geometrically, vectors in coordinate systems and vectors determined by length and angle;
	6th week	Dot product; Projections; Cross product, scalar triple product, vector triple product and their geometrical properties;
	7th week	Parametric equations of lines, direction cosines and direction ratios of a line, vector and symmetric equations of lines, angle between two lines;
	8th week	Parametric equations of lines, direction cosines and direction ratios of a line, vector and symmetric

		equations of lines, angle between two lines;
	9th week	Planes in 3-dimensional space, coplanarity of two lines, angle between two planes,
	10th week	distance of a point from a plane, angle between a line and a plane,
	11th week	distance between parallel planes; Shortest distance between two skew lines.
	12th week	Equation of a sphere, plane section of sphere, tangents and tangent plane to a sphere;
	13th week	Equation of a cone, enveloping cone of a sphere,
	14th week	Reciprocal cones and right circular cone;
	15th week	Equation of a cylinder, enveloping cylinder and right circular cylinder.
Dispersal of classes, preparation leave and practical examination		