Lecture Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim, Goa.

Name of Faculty: Prajyot Maruti Patil	**Subject:** Analytical 2D Geometry	
Paper code: MAT-205	**Program: B.Sc.**	**Division:**
Academic year: 2025-26	**Semester: IV**	**Total Lectures: 30**

Course Objectives:

1. **To make students explore the principles of coordinate geometry, focusing on points, lines, circles and conic sections. To delve into geometry and parametric equations, fostering a comprehensive understanding of 2D geometric structures and their Mathematical representations.**

Student Learning Outcome:

1. **Define terms and explain concepts related to geometry.**
2. **Understand metric properties in a plane, and the different forms of lines and circles in a plane.**
3. **Classify various conics in a plane and establish results concerning them.**
4. **Develop analytical skills in solving geometric problems.**

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
December	01/12/2025	06/12/2025	St. Francis Xaviers Feast 01	Fundamental Notations: Distance Formula; Section Ratio;		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three

							Dimensions.
December	08/12/2025	13/12/2025	02	Slope or Gradient; Locus; Area of Plane figures.		Smart Board PDF	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
December	15/12/2025	20/12/2025	Liberation Day 01	Transformations and Invariants: Translation; Rotation; Invariants.			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
December	22/12/2025	23/12/2025	02	Different Forms of a Line: Gradient Form; Point-gradient Form; Symmetric Form; Parametric Form;		Data projector	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
January	02/01/2026	03/01/2026	02	Two Point Form; Intercept Form; Normal Form; Algebraic Form.			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
January	05/01/2026	10/01/2026	02	A Point in Relation to a Straight Line;			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
January	12/01/2026	17/01/2026	02	Perpendicular Distance of a Point from a Straight Line;		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
January	19/01/2026	24/01/2026	02	Pair of Straight Lines.			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.

January	26/01/2026	31/01/2026	01 Republic Holiday	Different Forms: Centre Radius Form, Diametral Form		Smart Board PDF	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
February	02/02/2026	07/02/2026	02	Three Point Form; A Point in Relation to a Circle;			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
February	09/02/2026	14/02/2026	02	A line in Relation to a Circle; Tangents and Normals.		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
February	16/02/2026	21/02/2026	02	Parabola			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
February	23/02/2026	28/02/2026	02	Ellipse; Hyperbola		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
March	02/03/2026	07/03/2026	01 Holi	Tangents and Normals; Asymptotes.		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
March	09/03/2026	14/03/2026	02	Classification Scheme			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
March	16/03/2026	21/03/2026	01 Gudi Padva / Id-Ul Fitr	Polar Coordinates; Relation Between Cartesian and Polar Coordinates			Chatterjee, D. (2009). Analytical Geometry Two and Three

							Dimensions.
March	23/03/2026	28/03/2026	01 Ram Navami	Distance Between Two Points; Area of a Triangle		Smart Board	Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.
March-April	30/03/2026	04/04/2026	02	Equation of a Straight Line; Equation of a Circle; Equation of a Conic.			Chatterjee, D. (2009). Analytical Geometry Two and Three Dimensions.

*** Assessment Rubrics**

Component	Max Marks
ISA 1	5
ISA 2	5
ISA 3	5
Practical	Nil
Project	Nil
Semester End Exam	40