

2BSc(GA)2 – Basic Mathematics

Maximum Marks 100
Distribution of Marks: 80 Th. + 20 IA

Objectives:

- To have a clear understanding about the basic mathematics required for multimedia
- To understand about the basic geometry.

	Lectures	Tutorial	Seminar	Workshop	Demo	Field Visit
<p>Unit 1: Vectors</p> <p>Vectors Notation, Scalar and Vector, Types of vector, Collinear and coplanar vector, Multiplying Vector by Scalar, Vector addition and Subtraction, Position Vector, Unit Vector, Cartesian vector, Vector Multiplication, The Right hand tool, Normal vector.</p>	8	-	-	-	-	-
<p>Unit 2: Determinant & Matrix</p> <p>Determinant Introduction, Properties of Determinant, Minors and Cofactors Matrix Introduction, Types of Matrix, Operation on Matrix, Transpose of Matrix, Symmetric and Skew Symmetric Matrix, Transformation of Matrix, Adjoint and inverse of Matrix, Solution of equation by matrix Method.</p>	7	1	-	-	-	-
<p>Unit 3: Coordinate System</p> <p>Coordinate System, Cartesian coordinate system, Polar coordinate system, Points in a Plane, Distance between points, Equation of Line, Slope of a Line, Slope Intercept, Circle, Standard Equation of Circle, Intersection of circle with Line.</p>	7	1	-	-	1	-
<p>Unit 4: Points and lines</p> <p>Conic section Standard Equation of parabola, Ellipse and Hyperbola, Coordinate of a point in Space, Direction cosine and Direction Ratio of a Line, Equation of Line in Space, Angle between two lines, Shortest distance Between Two lines. Co planarity of two lines, Angle between two Planes, Distance of a Point from a Plane Angle between Line and a Plane.</p>	6	2	-	-	1	-
<p>Unit 5: Interpolation</p> <p>Interpolation, Linear and Non Linear Interpolation. Curve Tracing, Principles of Maxima and Minima, Continuity of curve.</p>	6	2	-	-	1	-

Assignments:

1. To work with data using Vectors & Matrix
2. To present an assignment on Interpolation
3. Any assignment given by the concerned Faculty.

Reference:

1. Coordinate Geometry M L Khanna.
2. Engineering Mathematics B S Grewal