CCVIII - COMPUTER GRAPHICS

UNIT I

Graphics Input Device – Storage Devices – Common Display Devices, Raster CRT – Scan Converting a Point, a Straight Line, a Circle, a Ellipse, Filling – Side Effects of Scan Conversion.

UNIT II

2-D Transformations – Translation and rotation – Matrix representations and Homogeneous Co-ordinates – Composite Transformations – Reflection and Sheet Transformation Commands – Windowing and Clipping – Windowing Concepts – Clipping Algorithms – Line, Area, Text and Blanking – Interactive Picture Construction Techniques – Positioning Methods, Rubber Band Methods.

UNIT III

3-D Transformations – Translation, Rotation & Scaling, Three Dimensional concepts – Co-Ordinate Systems, Display Technique, Graphics Packages – Three Dimensional Representations – Polygon surfaces, Curved surfaces.

UNIT IV

Hidden Surface and Hidden Removal – Classification of Algorithms – Black-Face, Depth-Buffer, Scan Line, Depth-Sorting, Area Subdivision, Octree, Hidden Line Elimination, Curved Surfaces.

UNIT V

Shading and Color Models – Modelling Light Intensities – Displaying Light Intensities – Surface Shading Methods – Color Models – Properties of Light, Standard Primaries, Intuitive Color Concepts, RGB Color Models, HSV Color Model – HLS Color Model.

TEXT BOOKS

1. Theory & Problems of Computer Graphics
   - Roy A.Plastock & Gorden Kalley
   - Schaum's Outline series-1987 (Unit-1)
2. Computer Graphics
   - Donald Hearn & M.Pauline Baker
   - Prentice Hall Of India-1983 (Unit 2,3,4,5)- first Edition.