

**MAJOR BASED ELECTIVE – II - COMPUTER GRAPHICS**

**Unit I**

A survey of computer graphics: Computer aided design – Presentation graphics – computer art – Entertainment – Education and training – Visualization – Image Processing – Graphical user interfaces.

Overview of graphics systems: Video display devices – Raster-scan systems – Random-scan systems – Graphics monitors and workstation – Input devices – Hard-copy devices – Graphics software.

**Unit II**

Output primitives: Points and lines – Line-drawing algorithms – DDA algorithm – Bresenham's line algorithm – Circle-generating algorithms – Filled-area primitives – Boundary-fill algorithm.

**Unit III**

Attributes of output primitives: Line attributes – Area-fill attributes – Character attributes – Bundled attributes – Inquiry functions – Antialiasing

**Unit IV**

Two-dimensional Geometric transformations: Basic transformations – Matrix representations – Composite transformations – Other transformations.

**Unit V**

Window-to-viewport coordinate – Two-dimensional viewing functions – Clipping operations – Point clipping – Line clipping – Polygon clipping.

**Text book:**

1. Computer Graphics C Version Second Edition, Donald Hearn and M.Pauline Baker, Pearson Education, 2006.