Computer Graphics

Unit - 1
Raster scan vs Random scan

vvs

Unit - 2

line drawing algorithm
  - DDA
  - Bresenham

Circle
  - Mid point

Ellipse
  - Mid point → optional (rarely asked)

any one or mostly two question compulsory
(mostly long question)
Theory & Derivation
+
Numerical

vvg

— Boundary Fill vs Flood Fill algorithm

Unit - 3
2 D Transformation — 1 question compulsory
  4 Numerical

vvs

Unit- 4
Clipping
  - point clipping
  - line clipping algo. — Cohen Sutherland ← vrg
                          Liang Barsky

  Polygon clipping
    ↳ Sutherland Hodgeman

1 question compulsory

vvs

Unit-5   3D Transformation
         Mostly Theory ~~practical~~   } 1 question
    VVI Parallel vs Perspective projection   } compulsory

Unit-6
         3D object Representation & curve Modeling
    - ~~learn~~ Study the terms given in
              the syllabus

    VVI —   Bezier curve   }
             B- spline curve   } 1 question compulsory
             Hermite curve   }   derivation
                                        +
             (Fractal Dimension)   numerical
             (& Koch curve   )

Unit-7
         Visible surface Detection
         ⟨ Back Face Detection
           Depth Buffer Method (z-Method)   } VVI
           A-Buffer Method   } ═
           Scan-line Method   } 1 question
           Depth-Sorting Method (Painter's   } compulsory
                                   Algorithm)
         - BSP Tree
         - Area-Subdivision Method
         - Octree Method

Unit-8   Illumination & surface Rendering Method
    VVI ✓ Gouraud vs Phong shading models

Unit-9 & 10
         4 Theory   } 3-5 marks question
                       1 ~~each~~ from
                            each chapter