

- Note:- 1) All questions are compulsory.
2) Figures to the right indicate maximum marks.

Q1) Attempt any Three of the following (15)

- 1) What is Computer Graphics, and what are some of its applications? Co1 R
- 2) What are the input devices used for operator interaction in computer graphics? Co1 R
- 3) What is scan conversion, and how it is used in computer graphics? Co1 U
- 4) Explain the DDA algorithm and its role in scan conversion. Co2 A
- 5) What is raster scan display? Co1 U
- 6) Explain the Liang-Barsky line clipping algorithm? Co2 A

Q2) Attempt any three of the following (15)

- 1) What are 2d Transformation and how are they represented using matrices? Co3 U
- 2) Explain the process of translation and how it can be represented using homogenous coordinates; Co3 U
- 3) What is orthographic projection? Co3 U
- 4) What is the geometric interpretation of homogenous coordinates? Co3 U
- 5) Explain the process of three dimensional shearing. Co3 U
- 6) What is the difference between parallel and perspective projection? Co3 A

Q3) Attempt any three of the following (16)

- 1) What are the stages involved in 3d Viewing? Co4 A
- 2) What is the canonical view volume (CVV)? Co4 A
- 3) What is colorimetry? Explain its significance in computer graphics. Co4 R
- 4) What are color spaces? Co4 U
- 5) Explain the concept of photometry in the context of light? Co4 A
- 6) What are co-ordinate system and matrices? How are they used in 3D viewing? Co4 A

Q4) Attempt any three of the following (15)

- 1) How does the scan-line method work for visible surface determination? Co5 U
- 2) What is painter's algorithm? Co5 A
- 3) What is BSP Tree in visible surface detection? Co5 R
- 4) Explain the Z-buffer algorithm advantages and disadvantages? Co5 U
- 5) What are Bezier curves, and how are they used in curve representation? Co5 U
- 6) Describe the area subdivision method for visible surface detection. Co5 A

Q5) Attempt any three of the following (15)

- 1) What are the principles of animation? Co1 R
- 2) Explain the concept of key framing in computer science. Co1 U
- 3) What is meant by group of objects in computer animation? Co1 A
- 4) What is digital image? Explain the different digital image file formats. Co1 U
- 5) Explain JPEG Compression standard for digital images. Co1 A
- 6) What is digital image enhancement? Explain the process of contrast stretching. Co1 E