

COMPUTER GRAPHICS & MULTIMEDIA

(Information Technology)

Time: 3 hours

Max. Marks: 70

PART - A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) List out the merits and demerits of plasma panel display.
 - (b) Enumerate the importance of presentation graphics and its applications.
 - (c) Define rotation of an object and write equivalent rotational matrix.
 - (d) Distinguish between window port & view port.
 - (e) What do you mean by orthographic projection?
 - (f) Give the block diagram of general three-dimensional transformation pipeline.
 - (g) List the classification of visible surface detection algorithms.
 - (h) What is scan line algorithm?
 - (i) What is morphing?
 - (j) What is MIDI? List components of MIDI.

PART - B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

- 2 Discuss in detail about the importance of computer graphics in the fields of education, visualization and image processing.

OR

- 3 Explain in detail about raster scan system and its components with the help of neat sketches.

UNIT - II

- 4 Illustrate about the concept of polygon clipping. Enumerate steps involved in Sutherland-Hodgeman polygon clipping algorithm.

OR

- 5 (a) Write and explain homogeneous coordinates and its matrix representations of basic 2-D transformations.
(b) Prove that the multiplication of transformation matrices for two successive rotations is commutative.

UNIT - III

- 6 Explain about parallel and perspective projections with help of block diagrams and their geometric transformation matrices.

OR

- 7 Derive the basis matrix (MB) for Bezier curve and explain the significance of Bernstein polynomials in Bezier curve with example.

UNIT - IV

- 8 Enumerate the steps involved in depth buffer algorithm for hidden surface removal and compare it with A – Buffer method.

OR

- 9 Explain the following Polygon Rendering methods with example:
(i) Gouraud shading. (ii) Phong shading.

UNIT - V

- 10 Enumerate about various steps involved in animation and explain about various types of interpolations used in animations.

OR

- 11 Discuss in detail about multimedia system sounds and audio file formats.
