

2020

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer any five questions in which

Q. No. 1 is compulsory.

1. Choose the correct alternative of the following :

(a) Raster graphics are composed of :

- (i) Pixels
- (ii) Paths
- (iii) Palett
- (iv) None of these

(b) Plasma Panel are also called :

- (i) Liquid crystal display
- (ii) Gas discharge display
- (iii) Non emissive display
- (iv) Emissive display

- (c) Expansion of line DDA algorithm is :
- Digital difference analyzer
 - Direct differential analyzer
 - Digital differential analyzer
 - Data differential analyzer
- (d) Transpose of a column matrix is _____
- Zero Matrix
 - Identity Matrix
 - Row Matrix
 - Diagonal Matrix
- (e) Cohen-Sutherland clipping is an example of _____
- Polygon clipping
 - Text clipping
 - Line clipping
 - Curve clipping
- (f) According to Bresenham's Circle drawing algorithm the circle has a :
- 4-way symmetry
 - 6-way symmetry
 - 8-way symmetry
 - 9-way symmetry
- (g) Which one is not 2-D transformation operation ?
- Sealing
 - Translation
 - Mirroring
 - Execution

- (h) The software AUTOCAD is used for :
- Geographical Mapping
 - Animation
 - Engineering drawings
 - Simulation
2. Explain 3D transformation and difference between 2D and 3D transformations.
 3. What is clipping ? Explain the method of Cohen-Sutherland line clipping in detail. Explain with example.
 4. What are random scan displays ? Compare and contrast raster scan and random scan displays.
 5. Explain the various hard copy devices used for computer graphics. Compare the working of electrostatic printer and laser printer.
 6. Define Projection. Discuss various types of perspective projection in detail.
 7. (a) Describe Bresenham's circle drawing algorithm. Draw a quadrant of a circle of radius 6 with centre (1, 3) giving all steps.

(b) Using Bresenham's line drawing algorithm.
Find out the list of the activated pixels for the
line from (5, 5) to (13, 9).

8. Describe the components of colored CRT using
diagram. Describe five basic application of
computer graphics.

9. Describe :

(a) Functioning of LCD screen

(b) Stack based seed filling algorithm

10. Write short notes on any four of the following :

(a) Interlacing

(b) Morphing

(c) Digital different analyser

(d) Zooming and Panning

(e) GKS primitive

(f) Vanishing point in perspective projection

(g) Transpose of a matrices

(h) Frame Buffer

