

2018

Full Marks -. 40

Time - 3 hours

The questions are of equal value

Answer *all* questions.

1. Explain the different applications of computer graphics.

OR

- a) Consider a line from (0, 0) to (-5, 5). Use DDA algorithm to rasterize a line.
 - d) Explain the mid point circle algorithm with suitable example.
2. a) Consider triangle ABC having co-ordinates A(4, 1), B(5, 2), C(4, 3). Rotate it by an angle 90° about joint A. Give the co-ordinates of rotated triangle.
b) Write down the Cohen-Sutherland line clipping algorithm with suitable example.

OR

Explain the 2D geometric transformations in details with examples.

3. a) What is B-spline curve ? Explain its properties and advantages.
- b) What do you mean by projection ? Differentiate between parallel and perspective projections.

OR

- c) Derive the matrix to rotate a 3-dimensional object about the principal x and y axes.
- d) Explain reflection and shear in 3D with example.
4. a) What is Multimedia ? What are the hardwares used in multimedia ? Write down the applications of multimedia.
- b) Differentiate between lossy and lossless compression technique with example.

OR

- c) Explain in details the most common file formats used in multimedia.
- d) Explain the binary image compression technique.