

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER- IV EXAMINATION – WINTER 2018**

**Subject code: 2640008****Date: 29-11-2018****Subject Name: Computer Graphics****Time: 10.30 am to 1.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain the following terms in brief: **14**
1. Perspective Projection
  2. Computer Graphics
  3. Image Processing
  4. View port
  5. Vanishing Point
  6. Transformations
  7. Frame
- Q.2 (a)** Discuss the various input and output devices that are used for Computer Graphics. **07**
- (b)** State various applications of Computer Graphics. **07**
- OR**
- (b)** Write a short note on Raster Scan Display **07**
- Q.3 (a)** Write a short note on the various 2-D transformations: Translation, Scaling, Rotation **07**
- (b)** With the help of a suitable example, explain mid-point circle algorithm. **07**
- OR**
- Q.3 (a)** Discuss the Bresenham Line Algorithm with suitable example. **07**
- (b)** Discuss the matrix operations performed for 2D scaling, reflection and rotation. **07**
- Q.4 (a)** Write a detailed description on Boundary fill and Flood fill methods. **07**
- (b)** Explain any three OpenGL functions. Also explain their parameters in detail. **07**
- OR**
- Q.4 (a)** Explain the following: **07**
1. Depth Cueing
  2. Digitizers
- Q.4 (b)** Discuss the various Line Attributes. **07**
- Q.5 (a)** What do you understand by 2D viewing? Explain the process with a neat and detailed diagram. **07**
- (b)** Write a brief account on parallel projection method. **07**
- OR**
- Q.5 (a)** Explain the technique used for 3D viewing? Explain any 3D viewing algorithm. **07**
- (b)** Write a brief account on perspective projection method. **07**

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