Code: IT6T2

III B.Tech-II Semester–Regular/Supplementary Examinations–March 2018

COMPUTER GRAPHICS AND ALGORITHMS
(INFORMATION TECHNOLOGY)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer *all* the questions.   All questions carry equal marks

$$11 \times 2 = 22 \text{ M}$$

1. a) Explain the data types in OpenGL.

   b) Describe the two-dimensional viewing.

   c) List the types of window events.

   d) Explain the rendering modes.

   e) List the difference between dot and cross product.

   f) Explain about the homogenous coordinates and its need.

   g) Define the projection and list the types of projection available in computer graphics.

   h) Explain the parallel viewing in OpenGL.

   i) Define the clipping.

   j) Describe the inside-outside testing with an example.

   k) Explain the about the object-space and image-space approaches.

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain the Programmable Pipelines.   8 M

   b) Illustrate the Primitives and attributes of OpenGL.   8 M

3. a) What are the physical input devices and logical devices?

                                                            8 M

   b) Demonstrate details about picking and selection mode.

                                                            8 M

4. a) Illustrate the Coordinate systems and frames with diagram.

                                                            8 M

   b) Evaluate the 45 degree rotation of a triangle A(0,0), B(1,1)
      and C(5,2) about P(-1,-1).   8 M

5. a) Demonstrate Perspective Projection Matrix.   8 M

   b) Illustrate the different parallel projection with a
      diagram.   8 M

6. a) What is the significance of 4-bit region code in
     Cohen-Sutherland algorithm?   8 M

   b) Differentiate between the Depth sort and z-buffer
      algorithm.   8 M