PVP 14

Code: CS6T3

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

COMPUTER GRAPHICS
(COMPUTER SCIENCE & ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

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

11x 2 = 22 M

1. a) List any three applications of computer graphics?

   b) Define pixel and frame buffer?

   c) What is widget?

   d) List the input modes in graphics system.

   e) Write the transformation matrix for reflection and shear?

   f) Define world frame and world coordinators.

   g) What is the need of homogeneous coordinates?

   h) Distinguish between window and view port?

   i) What do you mean by projection normalization?

   j) Define rasterization?

   k) What is the principle followed in flood fill algorithm?

PART – B

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

3 x 16 = 48 M

2. a) Draw and explain the architecture of a simple raster graphics system. 8 M

   b) Discuss how you would adapt the RGB color mode in OpenGL. 8 M

3. a) Discuss about window events and keyboard events in programming even driven input. 8 M

   b) Discuss about physical input devices in graphics system. 8 M

4. a) Illustrate two dimensional Translation and scaling with an example. 8 M

   b) Obtain a transformation matrix for rotating an object about a specified pivot. 8 M

5. Discuss following. 16 M
   a) Orthographic projections
   b) Axonometric projections
   c) Oblique projections.

6. Let R be a rectangle window whose lower left corner is at L (-3,1) and upper right-hand corner is at R(2,6). If the line segment is defined with two end points with A (-4,2) and B (-1,7) 16 M

   i) The region codes of the two end points.

   ii) Its clipping category.

   iii) Stages in the clipping operations using cohen-sutherland algorithm.