PVP 14

Code: IT6T2

III B.Tech-II Semester–Regular/Supplementary Examinations–March 2019

COMPUTER GRAPHICS AND ALGORITHMS
(INFORMATION TECHNOLOGY)

Duration: 3 hours Max. Marks: 70

PART – A

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

11x 2 = 22 M

1.

a) What is meant by Rendering?
b) Explain graphics pipeline.
c) Define raster scan displays.
d) Define Aspect Ratio.
e) Give an overview of display lists.
f) Define translation, scaling and rotation.
g) Give the equation for general two-dimensional rotation.
h) Define orthogonal projection.
i) Distinguish between parallel and perspective projection.
j) Explain clipping in frame buffer.
k) Write the purpose of Painters algorithm.

PART – B

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

3 x 16 = 48 M

2. a) Illustrate about the pen-plotter model in detail. 8 M

   b) Explain about 2-dimensional viewing. 8 M

3. a) Write short notes on:
   (i) Rotating square (ii) Double buffering 8 M

   b) Explain about tool kits, widgets and the frame buffer. 8 M

4. Derive the transformation matrix for rotation about an arbitrary axis. 16 M

5. a) Explain perspective projection in openGL and parallel projection in openGL. 8 M

   b) Elaborate on the orthogonal projection matrices and oblique projections matrices. 8 M

6. Explain in detail Cohen-Sutherland line clipping algorithm with an example. 16 M