Total number of printed pages – 2

B. Tech

PCCS 4401

Seventh Semester Back Examination – 2014

COMPUTER GRAPHICS

BRANCH (S) : AEIE, EC, IT

QUESTION CODE : L 171

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10

   (a) Write down any two line attributes.

   (b) Differentiate between window and view port.

   (c) What are spline curves ?

   (d) Define animation.

   (e) What do you mean by shading of objects ?

   (f) Define dithering.

   (g) What are the major differences between symmetrical DDA and simple DDA ?

   (h) What do you mean by temporal aliasing ?

   (i) Write down the shear transformation matrix.

   (j) Define aspect ratio.

2. (a) Explain in detail Cohen Sutherland line clipping algorithm with suitable example. 5

   (b) Differentiate between parallel and perspective projections. Derive their projection matrices. 5

P.T.O.

3. (a) With suitable examples, explain all 3D transformations. 5

   (b) Discuss in brief about different Antialiasing techniques. 5

4. (a) Explain how to create shaded objects and create shadows. 5

   (b) Describe two dimensional translation and scaling with example. 5

5. (a) Obtain transformation matrix for rotating an object about a specified pivot point. 5

   (b) Determine the blending function for Uniform periodic B Spline curve for n = 4 and d = 4. 5

6. (a) Explain any one visible surface identification algorithm. 5

   (b) Briefly describe different illumination models. 5

7. (a) Define fractals. Briefly explain different types of fractals with neat diagram and also explain how to construct fractals and the uses of fractals in computer graphics. 5

   (b) What is virtual reality ? Describe different input output virtual reality devices. 5

8. Explain the following terms in brief : 2.5×4

   (a) Seed Fill Algorithm

   (b) Bresenham's Line Algorithm

   (c) Bezier Curve

   (d) Morphing.