Registration No. :

Total number of printed pages – 2

B. Tech

PCCS 4401C

Seventh Semester Examination – 2011
COMPUTER GRAPHICS

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) What is the concept of shearing ?

   (b) What is composite transformation ?

   (c) Differentiate between raster scan and random scan display.

   (d) Explain frame buffer.

   (e) What are the steps involved in 3D transformation.

   (f) Define zooming.

   (g) Mention the different types of virtual reality system in graphics.

   (h) Explain the concept of thresholding and dithering.

   (i) Define computer graphics animation.

   (j) Distinguish between window port and view port.

2. (a) What is a homogeneous co-ordinate ? What are the basic advantages of using homogeneous coordinate system ? 5

   (b) Given a Window and View-port, what is the transformation matrix that maps the window from the world co-ordinates into view-port in Screen co-ordinates ? 5

3. (a) Discuss in detail about basic 3D transformations. 5

   (b) What are the advantages of midpoint line algorithm over the basic algorithm ? 5

P.T.O.

4. (a) Write down in detail about depth Buffer algorithm. 6

   (b) Explain Cohen–Sutherland line clipping algorithm with an example. What are its limitations ? 4

5. (a) What is projection ? Explain the parallel and perceptive projection with suitable example. 6

   (b) Explain the concept of polygon clipping with an example. 4

6. (a) What is surface rendering method ? Mention the different types of polygon rendering methods in graphics. 6

   (b) Find the composition of 2D transformation needed to scale an object about an arbitrary point P_1. 4

7. (a) What is morphing ? List out the different input and output virtual reality devices with necessary description. 4

   (b) Explain painters algorithm with a suitable example. 6

8. Write short notes on any two : 5×2

   (a) DDA line algorithm

   (b) Bezier curve VS B-Spline curve

   (c) Polygon rendering method

   (d) Half toning.

———