Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech.(CSE) (2011 Onwards) (Sem.–5)

COMPUTER GRAPHICS

Subject Code : BTCS-504

Paper ID : [A2100]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) List the various input devices for graphics.

b) List hidden edge/surface removal techniques.

c) What is rendering?

d) What is polygon clipping?

e) Differentiate window and view port.

f) Describe point clipping.

g) What is a vanishing point?

h) Why are transformations required?

i) Write down **any two** line attributes.

j) What is anti aliasing?

SECTION-B

2. Explain the midpoint circle drawing algorithm. Also draw as you Assume 10 cm as the radius and co-ordinate origin as the centre of the circle.

3. Compare Boundary fill algorithm with flood fill algorithm.

4. Show that two successive reflections about any line passing through the coordinate origin is equivalent to a single rotation about the origin.

5. Write short notes on :

   a) Raytracing

   b) Gourard and Phong shading

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

SECTION-C

7. Give DDA line drawing algorithm. Explain with suitable example.

8. What are the different video display devices? Explain (**any one**) its working in detail.

9. Differentiate between :

   a) Raster and random scan.

   b) Parallel and perspective projections