Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CSE) (Sem.–5)
COMPUTER GRAPHICS
Subject Code : CS-309
Paper ID : [A0468]

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 has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Write short notes on :

a) What do you mean by emissive and non-emissive displays?

b) What is Curve Clipping?

c) List the polygon filling algorithms.

d) What is the concept behind DVST display?

e) List the application areas of computer graphics.

f) Define Quadric Surfaces.

g) Define isometric projection in 3D graphics.

h) What is parametric representation of a curve?

i) List any six input devices used in computer graphics.

j) What do you mean by Vanishing Point?

SECTION-B

2. Use the midpoint method to derive decision parameter that can be used to generate straight line segments with any slope.

3. What is the role of homogeneous coordinates in 2-D transformations? Explain with the help of an example.

4. Find the equation of the Bezier curve which passes through (0,0) and (–4,2) and controlled through (14,10) and (4,0).

5. Give comparison between Flood fill and Scan conversion methods.

6. Application programs often use floating point numbers to define pictures, whereas the display uses integers. Should the conversion from floating point to integer format be done before or after clipping? How?

SECTION-C

7. Explain Liang-Barsky 2D line clipping algorithm. Why is this algorithm more efficient than the Cohen-Sutherland algorithm?

8. Explain the terms projection plane, view plane and view volume with references to 3D graphics. State and explain the anomalies of perspective projection.

9. Write short notes on :

   a) Anti-aliasing

   b) Components of a Graphics System