SC-180

Seat No.	

Total No. of Pages :2

T.E. (Computer Science & Engineering) (Semester - V) Examination, November - 2019
COMPUTER GRAPHICS
Sub. Code :66293

Day and Date :Friday, 22-11-2019 **Total Marks :50**
Time : 02.30 p.m.to 4.30 p.m.

Instructions :
1) **Q. No. 3 and Q.No. 6 are compulsory Attempt any one from Q. NO. 1 and QNo.2 Q. any one from Q. NO. 4 and Q. NO. 5.**
2) **Figures to the right indicate full marks.**
3) **Assume suitable data if necessary.**

Q1) a) Derive the transformation matrix for reflecting a two dimensional object through an arbitrary line. **[6]**

b) Explain Sutherland cohen subdivision algorithm for line clipping. **[6]**

Q2) a) Explain different criteria's used by bresenham's circle generation algorithm to select the appropriate pixel which best represents the actual circle.**[6]**

b) Define generalized 3D transformation matrix. Explain 3D rotation and reflection. **[6]**

Q3) a) Consider the clipping window X_L=-1, X_R=+1, Y_B=-1 and Y_T=+1 and the line From P_1(-3/2,1/6) to P_2(1/2,3/2). Clip the line using end point code algorithm. **[7]**

b) What is scan conversion. Explain run length encoding technique. **[6]**

P.T.O.

Q4) a) Explain parametric representation of cubic spline curve? **[6]**

b) What is warping? Explain Mesh warping method. **[6]**

Q5) a) What is procedural animation? Differentiate between key-frame based animation and procedural animation **[6]**

b) Explain phone Shading method for rendering a polygon surface. **[6]**

Q6) a) Explain the convex hull property of B-spline Curve **[7]**

b) Expalin diffuse reflection model for calculating surface intensity at a given point **[6]**