SV - 201

Seat No.	

Total No. of Pages : 1

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

Day and Date :Thursday, 25 - 04 - 2019 **Total Marks : 50**

Time : 02.30 p.m. to 04.30 p.m.

Instructions :
1) **Q. No. 3 and Q. No. 6 are compulsory. Attempt any one from Q. No. 1 and Q. No.2 and 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 the object through an arbitrary plane in a three dimensional space. **[6]**

b) What is scan conversion. Explain real time scan conversion using sorted active edge list method. **[6]**

Q2) a) Explain Bresenham' s incremental circle generation algorithm for first quadrant. **[6]**

b) Describe the process of window to viewport transformation. **[6]**

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

b) Explain Orthographic projections in detail. **[6]**

Q4) a) Explain the Warnock algorithm with example. **[6]**

b) Explain the methods for controlling motion in computer animation. **[6]**

Q5) a) What is halftoning? Explain halftone approximation method for a 3 by 3 pixel grid on a bi-level system. **[6]**

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

Q6) a) Given B0[1,1], B1[2, 3], B2[4 ,3], B3[3, 1] the vertices of a Bezier polygon, determine points on the curve for t = 0, 0.35, 0.85,1. **[7]**

b) What is Animation sequence? Explain its four components. **[6]**

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