

Total No. of Questions : 6]

SEAT No. :

PC402

[6359]-522

[Total No. of Pages : 1

**S.E. (Computer Engg./AL & DS/Computer Science &
Design Engg.) (Insem)**

COMPUTER GRAPHICS

(2019 Pattern) (Semester - III) (210244)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.No.1 or Q.No.2 and Q.No.3 or Q.No.4 and Q.No.5 Q.No.6.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Define the term aspect ratio, write the different applications of computer graphics. **[4]**

b) Write short note on Plasma and LED display device. **[4]**

OR

Q2) a) Define the terms: color depth, scan conversion, refresh rate, pixel. **[4]**

b) Write short note on CRT. **[4]**

Q3) a) Describe OpenGL architecture with block diagram in detail. **[6]**

b) Explain DDA line drawing Algorithm. **[6]**

OR

Q4) a) Explain what is meant by the term “OpenGL display callback function.” **[6]**

b) Explain Bresenham’s Line drawing algorithm in detail. **[6]**

Q5) a) Explain with an example scan line fill Algorithm. **[5]**

b) Let ABCD be the rectangular window with A(20,20), B(90,20), C(90,70) and D(20,70). Find region codes for endpoints and use the Cohen-Sutherland algorithm to clip the lines:

Q1 Q2 with Q1 (10,10), Q2 (70,60) **[5]**

OR

Q6) a) Write and explain with example Cohen Sutherland Clipping algorithm. **[5]**

b) Clip the line PQ having coordinates P(4,1) and (6,4) against the clip window having vertices A (3,2), B(7,2), C (7,6), D(3,6). Use Cohen-Sutherland algorithm. **[5]**

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