Total No. of Questions : 4]

SEAT No. : ____

PA-4982

[Total No. of Pages : 2

[6008]-234
S.E. (Information Technology) (Insem.)
COMPUTER GRAPHICS
(2019 Pattern) (214453) (Semester - II)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Answer Que 1 or Que 2, Que 3 or Que 4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume Suitable data, if necessary.***

Q1) a) Consider a line from A (5,7) to B (10, 15). Use DDA line drawing algorithm to rasterize the line from A to B. Draw the pixel wise rasterization of Line. **[8]**

b) Explain display file structure. Why is display file interpreter used? Which are the commands used in display file interpreter. **[7]**

OR

Q2) a) Explain Mid-point circle drawing algorithm? List its advantages and disadvantages over DDA circle drawing algorithm. **[8]**

b) What is aliasing and anti-aliasing? How aliasing effect is removed in vector generation algorithm? **[7]**

Q3) a) Apply the shearing transformation to square with A (0, 0), B (1, 0), C(1, 1), D(0, 1) as given below. **[8]**

i) Shear Parameter value of 0.5 relative to the line Y_ref = –1.

ii) Shear Parameter value of 0.5 relative to the line X_ref = –1.

b) Explain concave and convex polygons with diagrams.

Explain even-odd method for testing a pixel inside or outside the polygon.

[7]

OR

P.T.O.

Q4) a) Perform a 450 rotation of triangle A (0,0), B(1,1), C (5,2) **[8]**

i) About the origin (0,0)

ii) About P (–1, –1)

b) What are the steps involved in filling polygon in scan line algorithm? **[7]**