Department of CSIT, GGV, Blaspur, 2021_22(EVEN Semester)

Unit Test-I, B.Sc(CS) – VI Semester, Subject: Computer Graphics, Max Mark: 30, Duration: 1 hour

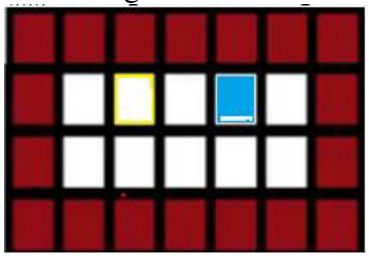
Note: Question number 1 (Section A) is compulsory. Attempt any three questions from the remaining (Section B).

Section A : Question 1 **2X6**

i) Write differences between random scan and raster scan display.

ii) Find initial decision parameter for region I of ellipse with length of major axis 6 unit along y axis and length of minor axis 4 unit along x axis from origin (0, 0).

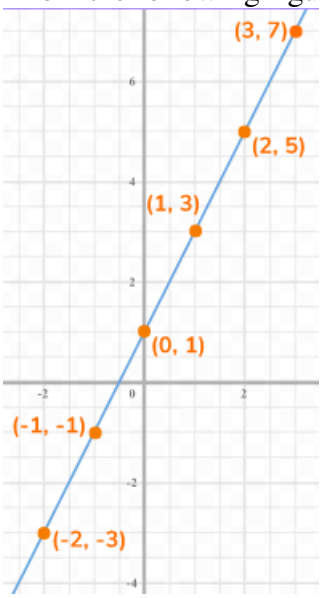
iii) Number the white pixels as (1, 2, 3...) in order/sequence to be filled using 4 connected boundary filling algorithm starting with blue colored seed pixel. Red colored pixels are boundary pixels.



iv) Write flood fill algorithm for polygon filling using 4 connected methods.

v) Derive initial decision parameter for midpoint circle generation algorithm.

vi) From the following figure (Given part of a line) find the value of y for x=4 using equation of line.



Section B **3X6**

Q-1 Find pixel positions for drawing the line from (2,1) to (7,10) using DDA line generation algorithm.

Q-2 Find pixel positions upto diagonal line for drawing the Circle using midpoint Circle generation algorithm given Radius = 9 with origin (0,0).

Q-3 Find pixel positions for drawing the line from (1,3) to (9,6) using DDA line generation algorithm.

Q-4 Find pixel positions upto diagonal line for drawing the Circle using Bresenhams Circle generation algorithm given Radius = 8 with origin (0,0).

Q-5 Derive equations for region II of an ellipse using midpoint ellipse generation algorithm.