

Computer Graphics (CS 521/1)

Full Marks: 30

Time: 45 Minutes

Answer all

1. Choose the correct alternative (1x5=5)

a) Which one is the biggest circle?

- i.  $x^2 + y^2 = 9$  ii.  $(x-5)^2 + (y-2)^2 = 9$  iii.  $(x+100)^2 + (y+200)^2 = 4$  iv.  $(x-2)^2 + y^2 = 16$

b) A straight line intersects a circle and an ellipse at (-5, 3) and (2,-8) respectively. What is the equation of a straight line?

- i. Data insufficient ii.  $-5x+8y=17$  iii.  $11x+7y+34=0$  iv. None of the above

c) Bit depth of a Grayscale image is

- i. 8 bits ii. 1bit iii. 16 bits iv. 24 bits

d) Frame buffer is a

- i. memory ii. computing unit iii. geometric object iv. all of these

e) What type of triangle is it when its vertices are (-3,0),(0,3),(3,0) ?

- i. Equilateral ii. Isosceles iii. Right angled iv. Data insufficient

2. Discuss midpoint circle drawing algorithm with appropriate diagram. Derivation of decision parameter is not required. (5)

3. Consider to end points of a straight line are (-5,3) and (2,3). Compute intermediate points using DDA and show these on the standard Cartesian coordinate. (10)

4. Consider a polygon has vertices (-2,3),(3,0),(3,-8),(13,-5),(10,7).Generate interior points of the polygon using scanline method and plot these on the Cartesian coordinate. (10)

(TAMAL PAL)  
Paper Setter