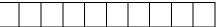
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Reg. No.



	GIET MAIN C	AMPUS AUTONOMOUS GUNUPUR –	765022	2		
	B. Tech Degree Examinations, November – 2021 (Seventh Semester) BCSPC7010/BITPC7010 – COMPUTER GRAPHICS					
	03450	(CSE & IT)				
-	Time: 3 hrs		Maximum: 100 Marks			
		Answer ALL Questions				
	The figures in the right hand margin indicate marks.PART – A: (Multiple Choice Questions)(2 x 10 = 20 Marks)					
Q.1.	Answer ALL questions	$(2 \times 10 - 2)$	[CO#]	, [PO#]		
a.	Color information can be stored in		1	1		
	(i) Main memory	(iii) Graphics card				
	(ii) Secondary memory	(iv) Frame buffer				
b.	• •	ould be stored as the binary value 1 in the frame	1	2		
0.	buffer, then it displays	oura de storea as the onnary variae i in the frame	1	-		
	(i) Dark green color	(iii) Dark gray color				
	(ii) Light gray color	(iv) White or black				
c.	In 2D-translation, a point (x, y) can move	to the new position (x', y') by using the equation	2	2		
	(i) $x'=x+dx$ and $y'=y+dx$	(iii) $x'=x+dx$ and $y'=y+dy$				
	(ii) $x'=x+dy$ and $y'=y+dx$	(iv) $x'=x-dx$ and $y'=y-dy$				
d.	Cohen-Sutherland clipping is an example		2	1		
	(i) polygon clipping	(iii) text clipping				
	(ii) line clipping	(iv) curve clipping				
e.		OR of the codes yields 0000) line lies	2	2		
	the window.					
	(i) completely outside	(iii) completely inside				
	(ii) half inside half outside	(iv) can't say anything				
f.	The object space or the space in wh	nich the application model is defined is called	2	1		
	(i) World co-ordinate system	(iii) Screen co-ordinate system				
	(ii) World window	(iv) Interface window				
g.	The scale factor of viewport transformation		2	2		
	(i) Sx = (svmax - svmin)/ (swmax swmin)	- (iii) $Sx = (svmin - svmax)/(swmax - swmin)$				
	(ii) Sx = (svmax - svmin)/ (swmax swmin)	+ (iv) $Sx = (svmax + svmin)/(swmax - swmin)$				
h.	The process of elimination of parts of a scene outside a window or a viewport is call		2	1		
	(i) cutting	(iii) clipping				
	(ii) plucking	(iv) editing	-			
i.		clipping algorithm used on the raster system?	2	1		
	(i) line clipping	(iii) area clipping				
	(ii) point clipping	(iv) solid clipping				
j.		llowing conditions must be satisfied by the point?	2	2		
	(i) xwmin < x < xwmax	(iii) $xwmin = x = xwmax$				
	(ii) $xwmin > x > xwmax$	(iv) $ywmin = y = ywmax$				
		Page 1 of 2				

PART – B: (Short Answer Questions)			(2 x 10 = 20 Marks)		
<u>Q.2</u> .	Answer ALL questions		[CO#]	[PO#]	
a.	What is computer graphics? Write its applications?		1	1	
b.	For an image with 1620 resolution and 5:4 aspect ratio, how many rows required?	are	1	2	
c.	For an image with 270000 resolutions in gray scale and aspect ratio 9:3, wis the size of image?	vhat	1	2	
d.	Differentiate between Seed Fill Algorithm and Scan line Algorithm?		3	1	
e.	What is Aliasing? Explain its types?		3	1	
f.	Define intensity interpolation?		2	1	
g.	Explain vector scan algorithm?		2	2	
h.	What is fractal geometry?		3	1	
i.	Differentiate between interpolation and approx spline curve?		3	2	
j.	What is projection vanishing point?		3	1	

PART – C: (Long Answer Questions)

(15 x 4 = 60 Marks)

Answer ALL questions			[CO#]	[PO#]		
3. a.	. a. Explain the working principle of CRT with neat diagram?		1	1		
b.	Explain the DDA line drawing algorithm and draw a line between $(2,1)$ and $(9,12)$.	8	1	2		
(OR)						
c.	Derive the Bresenham's Line drawing algorithm for Slope >1?	7	1	2		
d.	Explain Midpoint Circle drawing algorithm with radius 8?	8	1	2		
4. a.	Explain projection and its types?	7	2	1		
b.	Find the composite transformation matrix to double the area of the given triangle by fixed point $(2,2)$. Triangle ABC $(5, 0), (0,0), (0,5)$.	8	2	2		
(OR)						
c.	Illustrate the concept of polygon clipping?	7	2	1		
d.	Explain Cohen Sutherland line Clipping and clip the following line with the clipping window $(10,10)$, $(25,20)$.	_		_		
	L1: A (5,5) , B(20,15)	8	2	2		
	L2: C(15,25) , D(26,12)					
5. a.	Explain visible surface detection method and illustrate scan line algorithm?	7	4	2		
b.	Explain the properties of Bezier Curve with an example?	8	3	2		
(OR)						
c.	Differentiate between A-Buffer and depth Buffer algorithm	7	4	2		
d.	Construct the Bezier curve for following control points P0(2,4) ,P1(4,9), P2(8,6) and P3(11,5).	8	3	2		
6. a.	Differentiate between Key frame and Procedural animation?	7	4	1		
b.	Explain the step of polygon rendering using Gouraud Shading?	8	4	1		
	(OR)					
c.	Explain virtual reality and its types?	7	4	1		
d.	Explain the step of polygon rendering using Phong Shading?	8	4	1		
End of Paper						