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Invigila	tor's Signature	• •••••••	•••••	••••••	••••
	((CSE)/	SEM-6/	'CS-603/2010
C	OMPUTER (GRAPHIC	CS ANI) MUL	TIMEDIA
Time Al	llotted: 3 Hour	rs			Full Marks: 70
	The figures	in the marg	gin indice	ate full m	arks.
Candid	dates are requi	3	heir ans s practic		heir own words
		GROU	P - A	, the second	
	(Multi	ple Choice	Type Q	uestions	
1. Ch	oose the corre	ct alternati	ves for a	ny ten o	f the following :
					$10\times1=10$
í)	If blue is re	presented a	as 001 ti	he vellov	v is represented
	as				
	a) 001		b)	010	
	c) 101		d)	110.	
ii)	A 24-bit pla wide colour of colours.				th three 10-bitnumber
	a) 2 ²⁴		b)	28	
	c) 2 ⁴⁸		d)	2 ³⁰ .	
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CS/B.Tech (CSE)/SEM-6/CS-603/2010

	ang menanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggalanggala				
iii)	DAC means				
	a) direct access coding				
\$ 1.5°	b) digitally activated compression				
•	c) direct area clipping				
	d) digital to analog converter.				
iv)	acts as anode in CRT.				
	a) The phosphorous coating				
	b) The glass panel				
	c) The deflectors				
101	d) None of these.				
v)	Slope of the line joining the points (1, 2) and (3, 4) is				
	a) 0 b) 1				
	c) 2 d) 3.				
vi)	In Bresenham's circle generating algorithms, if (x, y) is the current pixel position then the x-value of the next pixel position is				
	a) x b) $x-1$				
	c) $x + 1$ d) $x + 2$.				
vii)	Run length coding is used for				
	a) image smoothening b) image compression				
٠	c) image colouring d) image dithering.				
viii)	If X_L , X_R , Y_B , Y_T represent the four parameter of				
	x-left, x-right, y-bottom and y-top of the clipping window and (x, y) is a point inside the window then				
	a) $X_L \le x \le X_R$ and $Y_B \le y \le Y_T$				
	b) $X_L \le x \le X_R$ and $Y_B \ge y \ge Y_T$				
	c) $X_L \ge x \ge X_R$ and $Y_B \le y \le Y_T$				
	d $V \rightarrow V \rightarrow dV \rightarrow \rightarrow V$				

CS/B.Tech (CSE)/SEM-6/CS-603/2010

a) partially invisible b) completely visible c) trivially visible d) completely invisible. x) Which device is used to grasp a 'virtual object'? a) Space ball b) Data glove c) Digitizer d) Touch panels. xi) How many channels are specified by MIDI standard? a) 16 b) 24 c) 32 d) None of these. xii) Lossy image simplification is based on operation. a) DCT b) CCIT c) ISO d) DMS. GROUP - B (Short Answer Type Questions) Answer any three of the following. 3 × 5 = 15 2. Write the properties of B-spline. In what respect it differs from Bezier curve? 3 + 2 3. Write boundary-fill algorithm for region filling. Compare and contrast the boundary-fill algorithm and flood fill algorithm. 3 + 2 4. Explain Liang-Barsky algorithm for line clipping. 5. What do you mean by MIDI? Write down the components of MIDI. 2 + 3 6. Define projection and mention its importance. Derive the transformation matrix for a perspective projection. 3 + 2 GROUP - C (Long Answer Type Questions) Answer any three of the following. 3 × 15 = 45 7. a) Derive Mid point circle drawing algorithm draw a circle with radius 10 unit. c) Define random and raster scanning. 7 + 5 + 3		ix)	A l	A line with end point codes as 0000 and 0000 is					
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CS/B.Tech (CSE)/SEM-6/CS-603/2010

- 8. a) Derive the transformation matrix for rotation about any axis.
 - b) Explain the reflection of a 2D figure on y = mx + c. Derive its component matrix.
 - c) What is homogeneous co-ordinate? Why is a homogeneous co-ordinate system needed in transformation matrix? 5+7+3
- 9. a) Derive the transformation matrix for perspective projection.
 - b) Suppose a window has its lowest left line corner at (-3, -2) and its upper right corner at (4, 2). Find the visible portion of the line joining points (-4, 2) and (3, 5) using Cohen Sutherland line clipping algorithm.
 - c) Write and explain Sutherland-Hodgeman algorithm to clip a polygon. 5 + 6 + 4
- 10. a) Define morphing and masking.
 - b) Write down the basic step of JPEG.
 - c) What do you mean by key frame and tweening?
 - d) Write few audio file formats. Explain the advantages and disadvantages of MIDI over digital audio.

2+2+5+2+1+3

- 11. Write short notes on any three of the following: 3×5
 - a) MPEG
 - b) Shading model
 - c) Virtual reality
 - d) Cohen Sutherland line clipping algorithm
 - e) CRT.