



## Third Semester MCA Degree Examination, July/August 2021 Computer Graphics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

1	a.	What is OpenGL? Describe OpenGL related libraries and header files. (10 Marks	()
1	a. b.	Explain OpenGL point functions and line function briefly with examples. (10 Marks	6)
	0.	Expans opense personal state of the state of	
2	a.	What is DDA algorithm? Give the steps involved in DDA algorithm. What are it	IS
_	•	advantages and disadvantages? (10 Marks	S)
	b.	Write midpoint circle drawing algorithm. (05 Marks)	
	C.	Explain boundary fill algorithm in brief. (05 Marks)	s)
			,
3	a.	Explain two dimensional translation scaling and rotation transformations. (10 Mark	
	b.	What is inverse transformation? (05 Mark	
	C.	Prove that the composition of two translation is additive by concatenating the matr	17
		representations for $T(t_{1x}, t_{1y})$ , $T(t_{2x}, t_{2y})$ .	.5)
		Fundain 2 demonsional rotation, reflection and shearing transformations. (10 Mark	(s)
4	a.	Explain 3-deficisional rotation, reflection and should be stated to the state of th	
	b.	Explain general pivot point scanng.	
	C.	Describe basic OpenGL geometric transformations. (05 Mark	
5	0	Define the terms windows and viewports. Derive the transformation matrix for world of	0-
3	a.	ordinates to viewport co-ordinates.	KS)
	b.	1 C 1 C the plant line aligning algorithm (10 Mar)	ks)
	0.	titute to entpping. — I	
6	a.	Describe any four 3D viewing concepts. (10 Mar	
	b.	Explain various 3D viewing co-ordinate parameters with example. (10 Mar	ks)
		End in Outhorough and oblique parallel projections (10 Mar	dze)
7	a.	Evaluation of the control of the con	K3)
	b.	Explain Offinogonal and conque passer   Service perspective projection transformation matrix.  Explain perspective projections? Derive perspective projection transformation matrix.	·ks)
		What is Bezier spline curves? What are the useful properties of Bezier curve? (08 Man	rks)
8	a	What is computer animation? Describe the development stages of animation sequences.	

b. What is computer animation? Describe the development stages of animation sequences.

(12 Marks)

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