Total No.	of Questions : 8] SEAT No.:
PD-407	78 [Total No. of Pages : 2
	[6402]-38
<b>S.E.</b> (C	omputer Engineering) (AL& DS) (Computer Science & Design)
	COMPUTER GRAPHICS
	(2019 Course) (Semester-III) (210244)
Time: 2½	[Max. Marks : 70 ons to the candidates:
1)	Answer Q.1 or Q.2,Q.3, or Q.4,Q.5, or Q.6,Q.7, or Q.8.
2)	Draw neat diagram wherever necessary.
3)	Figures to the right indicate full marks.
4)	Assume suitable data, if necessary.
	9. V
<b>Q1</b> ) a)	Differentiate between Parallel projection and perspective projection.[5]
b) \	What is transformation and write transformation matrix for: [5]
	i) 3D translation using homogenous coordinate system.
	ii) 3-D rotation about X-axis.
c)	Find transformation of a triangle $A(1, 0) B(0, 1) C(1, 1)$ by performing
	translation by one unit in x and y directions and then rotating 45°
	about origin. [8]
	OR Since
<b>Q2</b> ) a)	Derive 3D transformation matrix for rotation about an arbitrary axis.[5]
b)	What are the types of projection and write in brief about any one type
	of projection? [5]
c)	of projection?  A triangle is defined by  [8]
$\sim$	
~`	Find transformed coordinates after the following transformation.
	i) 90° rotation about the origin.
	ii) Reflection about line y=x
	P.T.O.
	<b>F.1.0.</b>

<b>Q</b> 3)	a)	Explain backface detection and removal Algorithm.	[6]
	b)	Explain and compare point source and diffuse illumination.	[5]
	c)	Explain ambient light and diffuse reflection with examples.	[6]
		.SOR	•
<b>Q4</b> )	a)	Write short note on Painters Algorithm.	[6]
	b)	Explain Halftone shading.	[5]
	c)	Write short note on Warnock's Algorithm.	[6]
<b>Q</b> 5)	a)	Write a short note on interpolation and approximation.	[4]
	b)	Explain Hilbert's curve with an example.	[7]
	c)	Explain blending function for B-spline curve.	[7]
		OR	
<b>Q6</b> )	a) (	Explain the Bezier curve. List its properties.	[4]
	b)	Write a short note on Interpolation.	[7]
	c)	With suitable example write short note on the fractal lines.	[7]
<b>Q</b> 7)	a)	Draw block diagram of NVIDIA workstation and explain it in brief.	[7]
	b)	Define Morphing and write the applications of Morphing.	[3]
	c)	Explain architecture of i860.	[7]
		OR OR	
<b>Q</b> 8)	a)	What are the state-of-the-art Advances in Gaming	[5]
	b)	Enlist all the steps required to produce real time animation with suita examples.	able [ <b>6</b> ]
	c)	Why do we need segments? Write the algorithm for changing visibilitattribute of segment.	ility [ <b>6</b> ]
1	)		