Paper / Subject Code: 32409 / Elective - I Computer Graphics & Virtual Reality

TE IT/ SEM V/CBCS

Seat

Time: 3 Hours

Marks: 80

27 NOV 2019

Note: 1) Question 1 is compulsory.
2) Attempt any three questions from the remaining questions.
3) Assume suitable data wherever applicable.

Q1	a	Prove that for 2D object successive rotation is additive.	5
	b	Explain applications of computer graphics.	5
	c	Explain types of projection.	5
	d	Fractals	5
Q2	a	Explain Cohen-Sutherland line clipping algorithm and clip line AB with A(40,15), B(75,45) against window with lower left corner (50,10) and top right corner(80,40).	10
	b	Explain VR modeling	10
Q3	a	Derive transformation matrix for rotation about fixed point and explain with suitable example.	10
	b	Define window and viewport, explain viewing transformation.	10
Q4	a	Generate five points on cubic bezier curve with control points A(0,0), B(1,2), C(3,2), D(2,0).	10
	b	What is virtual reality? Explain components of virtual reality.	10
Q5	a	Explain graphical rendering pipeline.	10
	b	Explain midpoint circle algorithm. Find pixel positions to plot circle centered at origin and of radius 10.	10
Q6		Write short note **(Any Four)**	
	a	Inside test	5
	b	Morphing	5
	c	Raster and random scan display	5
	d	Types of VR system	5
	e	Relevance of homogeneous coordinate system.	5

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