

Time: 3 hours

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IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2016 INTERACTIVE COMPUTER GRAPHICS

(Mechanical Engineering)

Max. Marks: 75

Answer any FIVE Questions All Questions carry equal marks *****					
	1	a)	What are the Application areas of Computer graphics?	[7]	
		b)	Write about raster-scan and random scan systems.	[8]	
	2	a)	Write an algorithm for line generation using Bresenham algorithm.	[7]	
		b)	Describe boundary-fill and flood fill algorithm.	[8]	
	3	a)	Define window and view port. What are the steps involved in window view port transformation.	[8]	
		b)	Explain the Cohen-Sutherland line clipping algorithm.	[7]	
	4	a)	Describe Bezier curve and B-spline curve.	[8]	
		b)	Explain Polygon and quadric surfaces.	[7]	
	5	a)	Explain diffuse reflection Lambert's cosine law and point source illumination.	[8]	
		b)	Illustrate Constant intensity shading algorithm.	[7]	
	6	a)	Explain Back-face visible surface detection method.	[7]	
		b)	Explain scan-line and depth sorting detection methods.	[8]	
	7	a)	Explain the types of animations.	[7]	
		b)	Explain about the general computer animation functions.	[8]	
	8	a)	Explain the multimedia systems with architecture.	[8]	
		b)	Write about Object-oriented authoring tools in multimedia.	[7]	

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1	a)	Describe raster-scan and random scan systems.	[8]	
	b)	Write about graphics monitors and work stations.	[7]	
2	a)	Explain the DDA line drawing Algorithm.	[8]	
	b)	Explain the scan-line polygon fill algorithm.	[7]	
3	a)	What is windowing? Describe window to view-port transformation.	[7]	
	b)	Discuss Sutherland-Hodgeman polygon clipping algorithm.	[8]	
4	a)	Write about Polygon and quadric surfaces.	[8]	
	b)	Explain the spline representation of 3D object.	[7]	
5	a)	What is reflection? Explain specular reflection.	[7]	
	b)	Explain Phong's shading and gourand shading algorithm.	[8]	
6	a)	Explain scan-line visible surface detection method.	[7]	
	b)	Describe about depth buffer detection method.	[8]	
7	a)	Write about Animation languages.	[8]	
	b)	Explain the raster animation.	[7]	
8	a)	What is multimedia? Explain the multimedia technology.	[8]	
	b)	Discuss main properties of multimedia systems.	[7]	

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1	a)	Discuss about video-display devices.	[7]
	b)	Write input device handling algorithms.	[8]
2	a)	Differentiate DDA and Bresenham line generation Algorithms	[8]
	b)	Write the mid-point circle algorithm.	[7]
3	a)	Derive transformation matrix for rotation about origin.	[8]
	b)	Explain segment closing and opening Algorithm	[7]
4	a) b)	List and Describe the polygon tables, representation for polygon surface of a 3D object. Give an example Explain Bezier and B-spline surfaces.	[7] [8]
5	a)	Briefly explain about illumination models.	[8]
	b)	Compare all shading algorithms.	[7]
6	a)	Describe back-face visible surface detection method.	[7]
	b)	Why visual surface detection is important in graphics? How is the detection techniques classified?	[8]
7	a)	Explain how to Design the animation sequence.	[7]
	b)	Write about general computer animation functions.	[8]
8	a)	Explain the Architecture and technology of multimedia systems.	[8]
	b)	Briefly write about multimedia authoring tools.	[7]

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Answer any FIVE Questions All Questions carry equal marks

1	a)	What is the overview of graphic system and what are the applications of	
		computer graphics.	[8]
	b)	Explain about raster-scan and random scan systems.	[7]
2	a)	Write bresenham line generation Algorithm.	[8]
	b)	Explain the steps involved in scan line algorithm for polygon filling.	[7]
3	a)	Define window and view port. What are the steps involved in window view	[8]
	b)	Explain the cohen-sutherland line clipping algorithm	[7]
4	a)	Write about Bezier curves and surfaces.	[7]
	b)	Discuss Solid modeling Schalars.	[8]
5	a)	What is illumination? Explain Light sources and point source illumination	[8]
	b)	Write what are the steps involved in Constant intensity shading algorithm	[7]
6	a)	Explain depth buffer and scan-line visible surface detection methods	[8]
	b)	Describe the Classification and back-face visible surface detection methods	[7]
7	a)	Write about computer animation functions	[7]
	b)	What is animation ?Discuss types of animations and explain various methods of controlling animation	[8]
8	a)	Explain main properties of multimedia systems.	[8]
	b)	Write about Object-oriented authoring tools	[7]

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