Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–IV • EXAMINATION – WINTER • 2014

Subject Code: 640008 **Date: 06-12-2014**

Subject Name: Computer Graphics (CG)

Time: 10:30 am - 01:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1		Explain the Following with Brief 1) Image Processing. 2) Perspective projection. 3) Raster Scan System. 4) Homogeneous co-ordinates. 5) Rotation. 6) Translation. 7) Pixel Phasing.	**14**
Q.2	**(a)**	Write Short Note on following	
		a) Refresh Cathode- Ray Tube.	**04**
		b) Computer Aided Design.	**03**
	(b)	Write generalized Bresenham's line drawing algorithm.	**07**
		OR	
	(b)	Explain Cohen-Sutherland line clipping algorithm.	**07**
Q.3	**(a)**	What is viewing transformation? Explain window to viewport transformation	**07**
	(b)	Write Midpoint ellipse algorithm.	**07**
		OR	
Q.3	**(a)**	Explain Composite Transformation in Brief.	**07**
	(b)	Write a Detail note on 2-D viewing Pipeline.	**07**
Q.4	**(a)**	Explain Sutherland-Hodgman Polygon Clipping Algorithm with example.	**07**
	(b)	Write a short note on 3-D Viewing Pipeline.	**07**
		OR	
Q.4	**(a)**	What is reflection? Explain reflection about x-axis, y-axis, line y=x taking suitable example.	**07**
	(b)	Explain DDA line drawing algorithm.	**07**
Q.5	**(a)**	What is projection? Write Short note on parallel projections	**07**
	(b)	Explain any seven OpenGL Functions for output primitives	**07**
		OR	
Q.5	**(a)**	Which methods can be applied to fill a color in areas with irregular closed shapes?	**07**
	(b)	Explain Liang-Barsky line clipping algorithm.	**07**

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