Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –I Examination Feb. - 2012

Subject code: 710204N **Date: 15/02/2012**
Subject Name: Computer Graphics
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	**(a)**	List various techniques used for display graphics in computer. Explain CRT display with the help of diagram.	**07**
	(b)	Define raster scan and render scan. Also differentiate them.	**07**
Q.2	**(a)**	List various character generation techniques. Explain any one in detail.	**07**
	(b)	What is polygon? Explain various polygon filling algorithm.	**07**
		OR	
	(b)	Discuss bresenham line drawing algorithm with example.	**07**
Q.3	**(a)**	What is line clipping? Explain Cohen Sutherland line clipping algorithm with the help of example.	**07**
	(b)	What is transformation? Explain basic transformation with the help of examples.	**07**
		OR	
Q.3	**(a)**	What is polygon clipping? Explain Sutherland Hodgeman polygon clipping algorithm with the help of example.	**07**
	(b)	What is view port? Explain window to viewport transformation.	**07**
Q.4	**(a)**	Explain parallel and perspective projection with the help of diagram.	**07**
	(b)	Write a short note on Hidden line removal.	**07**
		OR	
Q.4	**(a)**	Derive equation for 3-D scaling, 3-D rotation and 3-D translation.	**07**
	(b)	Write short notes on Hidden surface removal	**07**
Q.5		Write a note on following (Any two)	**14**

(i) 3-D display techniques
(ii) Display Adapter card
(iii) Shearing and reflection

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