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

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI- EXAMINATION – SUMMER 2016

Subject Code:160703 **Date:09/05/2016**

Subject Name:Computer Graphics

Time: 10:30 AM to 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)**	Explain the following terms: 1. Scan Conversion 2. Resolution 3. Pixel 4. Viewing 5. Pixmap 6. PHIGS 7. Clipping	**07**
	(b)	Derive and explain DDA line drawing algorithm.	**07**
Q.2	**(a)**	Explain working of CRT.	**07**
	(b)	Trace the intermediate points for a line having endpoints as (0, 0) & (10, 6) using Bresenham's line drawing algorithm.	**07**
		OR	
	(b)	Write the applications of Computer Graphics.	**07**
Q.3	**(a)**	Derive and explain Mid-Point circle drawing algorithm.	**07**
	(b)	Write and explain Cohen-Sutherland line clipping algorithm.	**07**
		OR	
Q.3	**(a)**	Explain basic 2D transformation methods.	**07**
	(b)	Explain inside-outside tests.	**07**
Q.4	**(a)**	Write properties of Bezier curve.	**07**
	(b)	Prove that successive 2D translations are additive.	**07**
		OR	
Q.4	**(a)**	Explain 3D rotations with example.	**07**
	(b)	Compare RGB and CMY color models.	**07**
Q.5	**(a)**	Write a C program to generate simple 2D scaling.	**07**
	(b)	Explain Z-buffer algorithm.	**07**
		OR	
Q.5	**(a)**	Explain any two 3D display methods.	**07**
	(b)	Write a C program to implement flood fill algorithm.	**07**

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