Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER -IV • EXAMINATION WINTER 2017

Subject Code: 640008 Date: 06-01-2018

Subject Name: Computer Graphics

Time: 02:30 pm to 05:00 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)**	Do as directed. Define : Resolution, Aspect ratio, Concave polygon, bitmap Write the difference between flood fill and boundary fill algorithm.	**04** **03**
	(b)	List all input devices. Explain any 3 input devices in detail.	**07**
Q.2	**(a)**	Explain operational structure of CRT with figure.	**07**
	(b)	Write advantages and disadvantages of DDA algorithm and digitize the line given by end points (50, 30) and (60, 38).	**07**
		OR	
	(b)	Digitize the line with end points (25, 26) and (35, 32) using Bresenham line drawing algorithm. Write algorithm of Bresenham.	**07**
Q.3	**(a)**	Write midpoint circle algorithm and write properties of circle.	**07**
	(b)	List and explain various uses of computer graphics	**07**
		OR	
Q.3	**(a)**	Write midpoint ellipse algorithm. Explain properties of ellipse.	**07**
	(b)	List types of Flat Panel Display. Explain each category in brief.	**07**
Q.4	**(a)**	Define Antialiasing. List various types of antialiasing and explain each in brief.	**07**
	(b)	Explain inside outside test use to fill color in polygon.	**07**
		OR	
Q.4	**(a)**	Define Projection Reference Point. Explain Perspective Projection in detail.	**07**
	(b)	Explain general two dimensional pivot point rotation.	**07**
Q.5	**(a)**	Define Depth Cueing and Explain Transformation from World to Viewing Coordinates.	**07**
	(b)	Explain Sutherland-Hodgman polygon clipping algorithm.	**07**
		OR	
Q.5	**(a)**	Explain Liang-Barsky line clipping algorithm with example.	**07**
	(b)	Explain in detail: 3D viewing pipeline with all its steps.	**07**