

GUJARAT TECHNOLOGICAL UNIVERSITY**B E Sem-VI Examination May 2011****Subject code: 160703****Subject Name: Computer Graphics****Date: 19/05/2011****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) (i) Explain the working of Cathode Ray tube. **04**
- (ii) For what purpose winding number method is used? What is a winding number? **03**
- (b) Explain boundary fill and flood fill for polygon filling. **07**
- Q.2** (a) Explain the term region codes. Write the steps of Cohen –Sutherland line clipping algorithm. **07**
- (b) (i) Write the differences between Random Scan display and Raster scan display **04**
- (ii) Explain perspective projection in 3D display methods. **03**
- OR**
- (b) List the properties of Bazier curves. **07**
- Q.3** (a) Explain three methods of character generation. **07**
- (b) (i) Explain shadow mask technique and explain how does it differ from beam penetration technique? **04**
- (ii) Explain scaling in 2D Transformations **03**
- OR**
- Q.3** (a) Write basic principle of Bresenham's line algorithm and write Bresenham's line algorithm. **07**
- (b) (i) Define the term **04**
- (a) Antialiasing, (b) anchoring
- (ii) Which two types of sensors are used in digital cameras? **03**
- Q.4** (a) Explain and write Liang Bersky line clipping algorithm. **07**
- (b) Explain the properties of B-spline curve. **07**
- OR**
- Q.4** (a) Explain NLN clipping algorithm. **07**
- (b) (i) Explain reflection with respect to any plane in 3D transformations. **04**
- (ii) Explain working principle of scanner. **03**
- Q.5** (a) Which is the simplest and commonly used image space approach to eliminate hidden surfaces? Explain. **07**
- (b) (i) Explain the term hue and saturation **04**
- (ii) How coordinate values of selected screen position is determined in touch screens? **03**
- OR**
- Q.5** (a) Explain ambient light and diffuse illumination. **07**
- (b) (i) List advantages and disadvantages plasma panel display **04**
- (ii) Explain three types of axonometric projection in 3D. **03**
