

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA – SEMESTER -IV • EXAMINATION – WINTER 2015

Subject Code: 2640008

Date: 09/12/2015

Subject Name: Computer Graphics (CG) Elective - I

Time: 10.30 a.m. To 01.00 p.m.

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) Write short note on Random Scan Display. 04**
(ii) Write acronym for the following: DVST, PHIGS and GKS. 03
- (b) List types of input devices. Explain Data Glove and Digitizers in detail. 07**
- Q.2 (a) Explain Digital Differential Analyzer (DDA) line drawing algorithm. 07**
(b) List and explain various application areas of computer graphics. 07
- OR**
- (b) Explain Bresenham's Line Drawing algorithm. 07**
- Q.3 (a) Define Dimensional translation. Explain three dimensional translation with appropriate example. 07**
(b) Write a short note on CRT. Explain its Design and Operational Structure with figure. 07
- OR**
- Q.3 (a) Explain Boundary Fill algorithm. Also differentiate between Boundary Fill and Flood Fill algorithm. 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) List and explain Line attributes and its function. Also list types of line joins. 07
- OR**
- Q.4 (a) Define Projection Reference Point. Explain Perspective Projection in detail. 07**
(b) Explain and Derive general three dimensional rotation of an object for an arbitrary axis. 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
