

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING - SEMESTER-IV • EXAMINATION – WINTER - 2016

Subject Code: 341602**Date: 24- 11-2016****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.
4. Each question carry equal marks (14 marks)

Q.1	(a) Write various flat panel displays and explain any one in detail.	07
પ્રશ્ન. ૧	આ વિવિધ flat panel displays લખો અને કોઈ એક ને વિગતવાર સમજાવો.	07
	(b) Define the following: 1) Resolution 2) Persistence 3) Aspect Ratio 4) Refresh rate 5) Flicker 6) Fluorescence 7) Frame Buffer	07
	આ વ્યાખ્યા આપો: 1) Resolution 2) Persistence 3) Aspect Ratio 4) Refresh rate 5) Flicker 6) Fluorescence 7) Frame Buffer	07
Q.2	(a) Explain Bresenham's Line Drawing Algorithm	07
પ્રશ્ન. ૨	આ Bresenham's Line Drawing Algorithm સમજાવો.	07
	(b) Explain Raster and Random Scanning System.	07
	આ Raster અને Random Scanning System સમજાવો.	07
	OR	
	(b) Explain Mid-Point Circle Drawing Algorithm.	07
	આ Mid-Point Circle Drawing Algorithm સમજાવો.	07
Q.3	(a) Explain 2D Basic Transformations.	07
પ્રશ્ન. ૩	આ 2D Basic Transformations સમજાવો.	07
	(b) Scale a Rectangle by 3 units in X direction and 5 units in Y direction with Coordinates A(0,0), B(6,0), C(6,4), D(0,4).	07
	આ Rectangle ને scale કરો 3 units X direction મા અને 5 units Y direction મા. Rectangle નાલ coordinates છે A(0,0), B(6,0), C(6,4), D(0,4).	07
	OR	
Q.3	(a) Explain 3D Rotation and Scaling.	07
પ્રશ્ન. ૩	આ Rotation અને Scaling સમજાવો.	07
	(b) What is Projection? Explain Perspective and Parallel Projections in 3D.	07
	આ શું છે? Perspective અને Parallel Projections 3D મા સમજાવો.	07
Q.4	(a) Explain Cohen – Sutherland line clipping algorithm.	07
પ્રશ્ન. ૪	આ Cohen – Sutherland line clipping algorithm સમજાવો.	07
	(b) Explain Depth Buffer Algorithm.	07
	આ Depth Buffer Algorithm સમજાવો.	07
	OR	
Q.4	(a) Explain Sutherland – Hodgeman Polygon Clipping Algorithm.	07
પ્રશ્ન. ૪	આ Sutherland – Hodgeman Polygon Clipping Algorithm સમજાવો.	07

	(b) Define illumination. Explain different reflection modes.	07
	આ) Illumination ની વ્યાખ્યા આપો. જુદા જુદા reflection modes સમજાવો.	07
Q.5	(a) Explain Flood Fill and Boundary fill algorithms.	07
પ્રશ્ન. ૫	આ) Flood Fill અને Boundary fill algorithms સમજાવો.	07
	(b) 1) Explain Text Clipping. 2) Explain Bitmap Character Generation Method.	04 03
	આ) 1) Text Clipping સમજાવો. 2) Bitmap Character Generation Method સમજાવો.	08 03
	OR	
Q.5	(a) Explain Reflection, Zooming and Panning in 2D.	07
પ્રશ્ન. ૫	આ) 2D માં Reflection, Zooming અને Panning સમજાવો.	07
	(b) Define Window and Viewport. Explain Window to Viewport coordinate transformation.	07
	આ) Window અને Viewport ની વ્યાખ્યા આપો. Window to Viewport coordinate transformation સમજાવો.	07
