

SUBJECT CODE NO:- P-277
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E. (CSE/IT) Examination May/June 2017
Computer Graphics
(Revised)

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- Question No. 1 & 6 are compulsory.
 - Attempt any two questions from Question No.2 to Question No.5 and from Question No.7 to Question No.10

Section A

- Q.1 Attempt any Five 10
- i) What is animation?
 - ii) What is resolution?
 - iii) List uses of computer Graphics?
 - iv) Distinguish between convex and concave polygons?
 - v) Explain glut keyboard Func()
 - vi) Define fractals
 - vii) List different OpenGL Basic primitives
- Q.2 a) A Polygon has four vertices located at A (20,10), B (60,10), C (60, 30), D (20, 30). Calculate the vertices after applying a transformation matrix to double the size of polygon 08
- b) What are the major components of graphics pipeline and how do they interact? 07
- Q.3 a) Write an OpenGL program to draw hexagon using basic primitive 08
- b) Explain Synthetic Camera Model for imaging system 07
- Q.4 a) Obtain a transformation matrix for rotation 08
- b) Write an OpenGL program to display small triangle whenever left mouse button is clicked 07
- Q.5 a) What do you mean by display lists? Give suitable example along with its advantages. 08
- b) Explain primary colors used in RGB color model & explain how other colors are achieved? 07

Section B

- Q.6 Attempt any Five 10
- i) How will you clip a point?
 - ii) Define rendering
 - iii) What is Center of projection?
 - iv) What is composite transformation?
 - v) What is axonometric projection?
 - vi) What are properties of light?
 - vii) What is raster scan system?

- Q.7 a) Digitize a line from (10, 12) to (15, 15) using DDA line algorithm 08
 b) Differentiate between parallel and perspective projection? 07
- Q.8 a) Explain classification of visible surface detection methods. Explain each with suitable example 08
 b) How window to viewport coordinate transformation happens? 07
- Q.9 a) Write about Cohen-Sutherland's line clipping algorithm. 08
 b) How OpenGL supports interaction with windows system using functions 07
 glutCreateWindow()
 glutInitWindowSize()
 glutInitWindowPosition() ?
 Explain each function in detail
- Q.10 a) Explain about shading models 08
 b) Explain in detail ambient, diffuse and specular reflection. Discuss how the angle of reflection is 07
 calculated