PVP 12

Code: IT4T5

II B.Tech - II Semester – Regular Examinations - JUNE 2015

COMPUTER GRAPHICS
(INFORMATION TECHNOLOGY)

Duration: 3 hours Marks: 5X14=70

Answer any FIVE questions. All questions carry equal marks

1 a) Describe in detail the features of a Computer based graphics system with a neat diagrammatic representation. 7 M

b) Explain about the synthetic camera model with its importance in real world, also explain the basic graphics architectures. 7 M

2 a) Define color, viewing, polygon. Explain the concept of Open GL API with an illustrative Gasket Program. 7 M

b) What do you understand by Three Dimensional Gasket. Write the related Plotting implicit functions with its syntax and neat example to illustrate. 7 M

3 a) Explain about the interactive computer graphics system. What do you understand by event driven programming. Name some Graphical Input devices, display devices with an example. 7 M

b) Explain about computer animation, types of animation, animation languages, and its main applications. 7 M

4 a) Define a pixel, Point, Line segment, Ray, Scalar, vector . What is meant by Affine transformation give a neat illustrative diagram with related matrix formula. 7 M

b) Explain about Modelling a colored cube. 7 M

5 a) What is the need for Homogeneous transformations. Explain in detail about Open GL transformations with its matrix formulae. 7 M

b) Define Quaternion & Illustrate using diagrams and matrix formulae, how the concatenation of transformations is done in computer graphics environment. 7 M

6 a) Define projection, and Explain with an example the parallel & perspective projection algorithms. 7 M

b) What are the various Hidden surface removal algorithms available. 7 M

7 a) Explain about the Phong lighting model with a neat diagram. Write about the Global illumination. 7 M

b) What is meant by polygon shading? Illustrate using an example. 7 M

8 a) Define anti-aliasing, clipping, Types of clipping, rasterization vs digitization using diagrams. 7 M

b) What is meant by generalized clipping, Write the functional block sequence of how 3D clipping is done? 7 M