Reg. No. : ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 31585

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fifth Semester

Information and Technology

01UIT505 - GRAPHICS WITH OPENGL

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is meant by transformation?

2. Define clipping.

3. List the differences between 2D and 3D transformations.

4. What is the BSP-Tree method of visible surface detection?

5. Define brightness and purity of light.

6. What are the uses of a Chromaticity diagram?

7. Define diffuse scattering.

8. Compare and contrast Flat and Smooth shading.

9. What do you mean by self-similarity of objects?

10. List the available Boolean operations on objects.

PART - B (5 x 16 = 80 Marks)

11. (a) Write in detail about two dimensional Geometric transformations. (16)

Or

(b) Explain in detail about line clipping algorithms. (16)

12. (a) Explain in detail about three dimensional object representations with neat examples. (16)

Or

(b) What is three dimensional viewing? Explain in detail with an example. (16)

13. (a) Write short notes on the following: (1) RGB Color model (2) YIQ Color model (3) CMY Color model (4) HSV Color model. (16)

Or

(b) Write the procedure to interactively draw three dimensional scenes using OpenGL. (16)

14. (a) (i) How the diffuse component is computed in a shading model? (8)

(ii) How shadows of objects are added? (8)

Or

(b) How textures are added to faces? Explain with an example. (16)

15. (a) What do you mean by Mandelbrot sets? Write a detailed procedure to draw the Mandelbrot sets. (16)

Or

(b) What is ray tracing? Explain in detail about ray intersection with primitives. (16)

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