Unit – 3 (continuation)

(Color & Shades)

1. Explain RGB color model with a neat diagram.
2. Explain CMY color model with a neat diagram.
3. What is Indexed color?
4. List & Write OpenGL functions for color.
5. Explain XYZ color matching functions & write Normalized XYZ values
6. What is Chromaticity? Write a Chromaticity diagram for the Spectral colors from 400nm to 700nm
7. What is Light? Explain different types of Light sources
8. Explain different types of surfaces.
9. What is Light? Write Illumination function.
10. What is an Illumination Model?
11. Explain phong Lighting Model.
12. What is Flat shading? Write OpenGL function for Flat shading.
13. Explain Gouraud shading
14. Explain phong shading.
15. Explain Specular model.

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Unit - 4

1. What is 3D viewing? Explain with its architecture.
2. With a neat diagram explain 3D viewing pipeline and 3D viewing parameters.
3. With suitable sketches, explain the various kinds of views in computer graphics system (types of projections)
4. Describe the difference between perspective and orthogonal projections (with the help of OpenGL)
5. Explain parallel projection and perspective projection with a neat diagram.
6. Explain different or classical viewing projections
7. Explain different types of parallel projection.
8. Explain in details:
   a. Oblique projection
   b. Axonometric projections (with example)
   c. Isometric orthogonal projection (with example)
   d. Multiview orthogonal projection
   e. perspective projections
9. Explain OpenGL 3D viewing functions and visibility detection functions.
10. Explain depth buffer method algorithm or Z Buffer algorithm
11. Explain visible surface detection methods with example.
12. Explain visibility algorithm (Scan Line Z-Buffer Algorithm)

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(13) What is hidden surface removal? Explain in detail.
(14) Explain in detail visible surface detection algorithm with a example.
(15) Explain why rendering process is important in computer graphics.

Unit - 5

(1) Explain in detial about Bezier spline curves and surfaces.
(2) Write a short notes on following
(a) Input devices
(b) Display list
(c) curved surfaces
(d) Quadric surfaces
(e) cubic surface function
(f) programming Event Driven Input
(g) menus
(h) picking
(i) selection
(j) Logic operation
(k) Rubberbanding
(l) Raster Text Vs Stroke Text
(m) Input modes
(3) Simple interactive programs to draw & give animation
(a) animate flag
(b) car including animation (using mouse button)

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(c) write a simple paint program with menu structure of paint program as given below.

Right button — quit, clear

middle button — colors, pixel size, Fill

colors — Red, Green, Blue, Cyan, Magenta, Yellow, white, Black

pixel size — increase pixel size, decrease pixel size

Fill — Fill on, Fill off

(d) write a simple paint program to draw five drawing modes — line segment, rectangle, triangle, pixel and text. choose colors, pixel size, fill patterns.

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