**Practice Questions**

1. Explain any two functions in OpenGL. Write the basic commands to draw the pixel and polygon in OpenGL.

# Construct the Bezier curve with the following polygon vertices (control points): A(1,1), B(2,3), C(4,3), and D(6,4).

# What do you mean by the refresh rate of a display device? Explain vector scan display with a suitable diagram.

# Explain RGB color model. Differentiate between virtual reality and augmented reality with examples. Explain Binary Space Partitioning (BSP) trees with a suitable example.

# What is the major drawback of Sutherland Hodgeman Polygon Clipping Algorithm? Illustrate with a suitable example. Explain B-spline curve and its properties.

# Differentiate between parallel and perspective projection with suitable diagram. Illustrate the window to viewport transformation with example.

# Why Liang Barsky Line Clipping Algorithm is efficient than Cohen Sutherland Algorithm? Explain the clipping procedure of Liang Barsky algorithm with suitable example.

# Explain the importance of filling algorithms in graphics applications. Differentiate between boundary and flood fill algorithm with algorithm.

# Explain polygon surface representation using Polygon table and polygon meshes.

# Explain about parametric curve. Describe the properties of Bezier curve.

# Calculate the total memory required to store a 8 minute video in a SVGA system with 24 bit true color and 25 fps.

# Define the term ‘rendering’ in computer graphics. Explain Phong Shading Method with its advantage and disadvantage.

# Define intensity attenuation. Distinguish between Gouraud shading and Phong shading model.

# What is quadric surface? Compare between diffuse reflection and specular reflection.

# Reflect a traingle (2,4),(4,6),(2,6) about a line y=1/2(x +4)

# Derive oblique projection matrix. what is the difference between cabiliar and cabinet projection?

# What is specular reflection model of phong? Explain shadows and intensity attenuation in illumination modelling?

# What is the role of ray tracing in visible surface detection? Explain How scan line algorithm is used for back face detection.

# How virtual realities differ with our real world? Describe some components of VR system.

# Let ABCD be the rectangle window with A(0, 0), B(10, 0), C(10, 10) and D(0, 10). Use Liang Barsky line clipping algorithm to clip the line XY where X(5, 3) and Y(15, 9)

# Define window, viewport and viewing transformation. Let ABCD be the regular window with A(20, 20), B(90, 20), C(90, 70),and D(20, 70). Find the region codes for end points and use Cohen Sutherland algorithm  to clip the lines P(10, 30) Q(80, 90).

# List any two disadvantages of BSP tree method in visible surface detection. Make a comparision between Painter’s algorithm and A- Buffer algorithm.

# Describe the architecture of raster scan display. Explain about sweep, octree and boundary representations for solid modeling.

# Give some basic color model. Give the basic command to draw the pixel and polygon in OpenGL.

# Trace the Bresenham’s Line drawing algorithm for the end points(1, 1) and (8, 5).

# What is the purpose of wireframe representation? Describe about boundary and space partitioning.

# Plot the ellipse centered at (0, 0) with radius rx = 8 and ry = 6, using midpoint ellipse drawing algorithm.

# How can we detect shadows in computer graphics? List the challenged in computing light model.

# List some applications of VR. What might be the possible navigation techniques and manipulating interfaces in virtual reality? Justify.

# Write short notes on: a) Sweep Representation b) Intensity Attenuation