1. a) What do you mean by Lossy and Lossless data compression?
b) What is orthographic projection?
c) What are the main advantages of Bresenham's line drawing algorithm?
d) How to clip a point?
e) Explain the difference in Gouraud and Phong shading.
f) Write recursive flood fill algorithm.
g) Explain the basics of Cathode Ray Tube used for display.

2. a) Write the general form of NURBS using its basis function.
   b) Explain the GIF image format with suitable details.

3. a) Explain the functioning of optical mouse.
   b) What do you mean by MIDI files? What are MIDI messages?

4. a) What are I, P and B frames in H.264 format? Discuss in detail.
   b) Discuss the polygon clipping algorithm which works by extending each line of the convex clip polygon in turn and selecting only vertices from the subject polygon that are on the visible side.

5. a) Clip a 2D line from P1 (4,12) to P2 (8,8) using Liang-Barsky algorithm if clipping window has lower left at (5,5) and upper right at (9,9).
   b) Explain Phong Illumination model with proper diagrams.

6. a) Discuss the holographic display technology. Discuss any two types of holographic displays.
   b) In 2D transformation, the reflection along the line $y = x$ is equivalent to the reflection along x-axis followed by counter clock wise rotation by $\alpha$ degree. Find out the value of $\alpha$.

7. a) Using DDA algorithm fit a line from (2, 3) to (12,8). Show all intermediate steps.
   b) What is aliasing effect? Discuss one way to handle the aliasing.