**Unit 5: Curves and Surfaces**

1. Discuss non-parametric and parametric curves. For position vectors P1 [5 7] and P2 [8 9] determine the parametric representation of the line segment between them. Also determine the slope and tangent vector of the line segment.
2. Given B0 [1 1], B1 [2 3], B2 [4 3], B3 [3 1] are vertices of a Bezier polygon, determine 5 points on the Bezier curve and draw it.
3. Given B0 [2 2], B1 [2 3], B2 [3 3], B3 [3 2] are vertices of a Bezier polygon, write the equation for Bezier curve. Also find the coordinate pixels for t = 0, ¼, ½, ¾, 1 on the Bezier curve and draw it.
4. Construct the Bezier curve of order three with four vertices of the control polygon B0 [0 0], B1 [1 2], B2 [3 2], B3 [2 0]. Generate at least 7 points on the curve and draw it.
5. Describe Z-buffer algorithm for hidden surface removal.

**Unit 6: Illumination Models & Surface-Rendering Methods**

1. Explain Gourard Shading method.
2. Write short note on phong lighting model. Indicate the advantages and disadvantages
3. Describe the different types of light sources in detail.
4. Discuss diffusion reflection in detail.
5. What are different methods available for polygon rendering? Briefly discuss any one of them