

Computer Graphics ETCS 211

Assignment 5

To be submitted on or before 13/11/15

- 1: Given control points (10,100), (50,100), (70,120) and (100, 150), calculate coordinates of any four lying in the corresponding Bezier curve.
- 2: What are B-spline curves? Why are they preferred over the Bezier curves? How do we list for the first order and second order continuities?
- 3: How are Bezier curves drawn using Bernstein polynomials? List the basic properties of Bezier curves.
- 4: What are the major differences between Spline, Bezier curves and B-spline curves? Make a comparison between them and suggest which curve should be used in computer graphics.
- 5: Obtain the curve parameters for drawing a smooth Bezier curve for the control points A(0,0), B(10,40), C(70,30), D(60, -20).
- 6: A unit cube is projected on xy plane using standard perspective projection. Find the coordinates of the cube after projection in following cases.
 - (a) $d = 10$
 - (b) $d = 5$
- 7: What are different types of parallel projection?
- 8: Define: diffuse illumination, diffuse reflection and coefficient of reflection.
- 9: Explain the Lambert's cosine law.
- 10: What is diffused reflection? Give the illumination model that incorporates this reflection.

