2006 Paper 12 Question 5

Computer Graphics and Image Processing

(a) Give the definition of the cubic Bézier curve.   [4 marks]

(b) Derive the conditions necessary to ensure that two cubic Bézier curves join with $C1$-continuity.   [6 marks]

(c) Describe, in detail, an algorithm for drawing a cubic Bézier curve to a given tolerance using straight lines. You may assume that you already have an algorithm for drawing a straight line.   [6 marks]

(d) Explain why and how homogeneous co-ordinates are used in computer graphics.   [4 marks]