(a) One approach would be to draw a segment of the cubic Overhauser curve defined by \((-1, 0), (0, 1), (1, 0) \text{ and } (0, -1)\).

(i) Explain how a segment of an Overhauser curve in general can be represented as an Hermite cubic and so as a Bézier cubic. [4 marks]

(ii) Derive the formula for the resulting Bézier curve, \(P(t)\). [3 marks]

(iii) Calculate the coordinates of \(P\left(\frac{1}{2}\right)\). How large is the error? [Hint: \(\sqrt{2} \approx 1.414\).] [3 marks]

(b) Calculate revised control points for the Bézier curve so that it models the circular arc more accurately. [4 marks]

(c) Describe in outline an alternative way of efficiently drawing the arc by calculating the pixels that lie on it directly. [6 marks]