Computer Graphics and Image Processing

(a) Describe the A-buffer polygon scan conversion algorithm using $4 \times 4$ sub-pixels for each pixel. [10 marks]

(b) It is possible to represent continuous tone greyscale images using just black ink on white paper because of limitations in the human visual system. Explain how and why. [4 marks]

(c) Describe an algorithm that, given a greyscale image, will produce a black and white (bi-level) image of four times the resolution in each dimension which provides a good approximation to the greyscale image. [6 marks]