

2003 Paper 12 Question 5

Computer Graphics and Image Processing

- (a) Describe the A-buffer polygon scan conversion algorithm using 4×4 sub-pixels in 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 which, 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]