Computer Graphics and Image Processing

(a) Describe, in detail, an algorithm to clip a straight line against an axis-aligned rectangle. [10 marks]

(b) Explain why homogeneous coordinates are used for handling geometric transformations. [3 marks]

(c) Give a matrix, or a product of matrices, which will transform the square $ABCD$ to the square $A'B'C'D'$. [4 marks]

(d) Show what happens if the same transformation is applied to the square $A'B'C'D'$. [3 marks]