4 Computer Graphics and Image Processing (PR)

Given a model of a scene represented as a set of triangles in three-dimensional space defining its surfaces, consider the problem of rendering it on a raster display. Write brief notes on:

(*a*) the data that would be stored for each triangle; [2 marks]

(*b*) perspective projection from an arbitrary viewpoint; [5 marks]

(*c*) clipping the data to a suitable viewing frustrum; [5 marks]

(*d*) identifying pixels on the screen within a triangle; [3 marks]

(*e*) resolving hidden surfaces using a z-buffer. [5 marks]