Consider the calculation of light emanating from a point on a surface.

(a)  What is meant by the following terms? Explain how their contribution to the overall amount of reflected light is calculated.

   (i) Ambient illumination  [2 marks]
   (ii) Diffuse reflection   [4 marks]
   (iii) Specular reflection [4 marks]

(b)  Suppose that the surface is represented as a polyhedral mesh with triangular faces. Explain how illumination is calculated across a face using each of the following.

   (i) Gouraud shading      [3 marks]
   (ii) Phong shading       [3 marks]

(c)  Explain where the calculations for Gouraud and Phong shading should be performed when using OpenGL.  [4 marks]