Storing Images

1 A computer screen displays images using pixels.

a) Describe how the number of bits used per pixel affects the colours in an image.

....

....

[2]

b) How many bits per pixel would be needed for a pattern that uses 256 unique colours?

....

[1]

c) Explain which of the following images would need
the greatest number of bits to represent all of the pixels.

1 bit is needed to
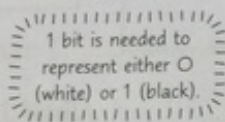represent either O
(white) or 1 (black).

Image 1   Image 2   Image 3

....

....

....

[4]

[Total 7 marks]

2 Duncan prints a 10 × 10 inch photograph with a resolution of 60 DPI.

DPI means Dots Per Inch or Pixels Per Inch

a) i) Define the term 'resolution'.

....

[1]

ii) Calculate the total number of pixels in Duncan's photograph.

....

[2]

b) Explain how decreasing the DPI would affect the image quality.

....

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[2]

c) Explain the purpose of metadata in an image file.

....

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[2]