Name: Class: Mark:

1. Smith and Sons is an accountancy firm that has around 500 employees, each with their own networked computer.

Each employee needs to send and receive email. They also make use of cloud accounting software to view and update their client’s business accounts.

Telephone calls are made via the Internet using handsets.

(a) The company makes use of the HTTPS protocol for the cloud accounting software and SMTP for sending email. Explain **two** other network protocols that the company
will be using. [4]

(b) The company has found that their current connection to the Internet is slow. They have been told that they should get a better connection that improves both their bandwidth and latency.

Explain **two** ways that improving the bandwidth and latency could affect the
companies use of their cloud accounting software. [4]

**Bandwidth improvement:**

**Latency improvement:**

(c) The company has to deal with highly confidential business and personal information when it makes use of the cloud accounting software.

Explain **one** way that the company makes sure the data it transmits is secure. [2]

2. A software engineering company has offices in London, New York and Beijing. Large program files need to be downloaded for the programmers to use.

(a) The files are often compressed before sending.

Explain why these programs must **not** be compressed using a lossy compression. [2]

(b) The company has commissioned a photographer to create some digital photos of key employees which will be used on their website.

They are happy for these photos to be given in a lossy compressed format.

Explain why the photographer has been allowed to use a lossy format. [2]

(c) The company will also be putting a marketing video on their website.

Discuss a suitable codec that could be used for the video. [6]

[Total 20 marks]