

1. An accounting firm has access to the finances of all the businesses they work with. This includes personal information about employees, invoices, sales figures, expenses and profits.

(a) In order to use the system, an accountant must first gain access to the building with an ID card. They then log in to their computer with their username and password and also the same ID card.

Identify **two** types of factor being used in the authentication of the users. [2]

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(b) The accountant then logs into the accounting software through a web browser. To do this, they use two-factor authentication. Explain what is meant by two-factor authentication. [2]

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(c) The IT systems and software of the accountants keep logs of the computer and accounts package usage. Explain **three** software activities that may be monitored in logs and suggest why these are monitored. [6]

**Activity 1:**

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**Activity 2:**

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**Activity 3:**

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2. A telecoms company has said that they are not only concerned about attacks initiated by black hat hackers, but also the hacking attempts of grey hat hackers.

(a) Explain what is meant by the term grey hat hacker.

[2]

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(b) A white hat hacker has been employed as a cyber security consultant for a web development agency. They have carried out penetration testing of the IT systems and noted that one major area of concern was the passwords used.

Discuss what rules could be given to the company as advice for employees to make strong passwords that will be difficult to crack. Make use of examples in your answer to illustrate both strong and weak passwords.

[8]

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[Total 20 marks]