Safety and security – 2021/20 IGCSE 0417

1. Nov/2021/Paper_11/No.6

As a student you often use a computer screen. This could be a screen on a desktop computer, a laptop computer or even a smartphone.

Evaluate your use of computer screens, in terms of health risks, and explain any strategies you use to minimise these health risks.

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2. Nov/2021/Paper_11/No.11

Many young people play online games. One problem with online gaming is that it is easy to give out personal details accidentally. Some users create weak passwords which could lead to their personal details being accessed.

(a) Name **two** pieces of personal data that could be accessed.

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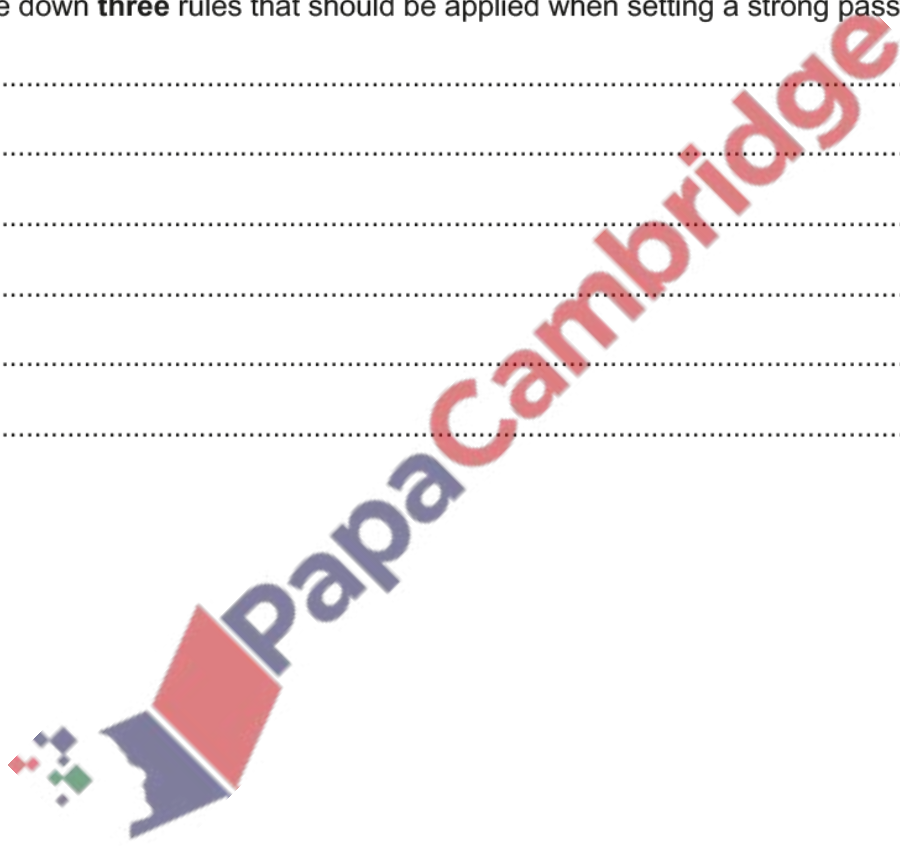**(b)** Write down **three** rules that should be applied when setting a strong password.

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(c) Describe safety measures that should be taken by gamers to ensure their data is safe other than using strong passwords.

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3. Nov/2021/Paper_12/No.12

Discuss the disadvantages of policing the internet.

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Students in Tawara College are using the internet to find information for a project. They have been told that the college has a firewall.

(a) Explain what is meant by a firewall and why it is used.

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The students visit different websites to get information for their project.

(b) Explain why it is **not** always easy for the students to find reliable information on the internet.

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5. Nov/2021/Paper_13/No.5

Keeping data secure is very important in any computer system. Many organisations use encryption when sending data.

(a) Describe the term encryption.

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(b) Another way of protecting data in a computer system is to use passwords.

Identify methods to prevent hackers from gaining knowledge of someone's password.

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Transactions with the bank's website use a variety of technologies including SSL.

(c) Explain what is meant by SSL. Include in your answer why SSL is used.

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7.

Geeta spends a great deal of time at work entering data into her computer.

State **three** items of hardware that Geeta should be provided with to help avoid RSI when she enters data into the computer.

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8.

A company has placed a firewall between their Local Area Network (LAN) and their internet connection. This is used to increase security in their computer systems.

Discuss the effectiveness of using this firewall to increase security.

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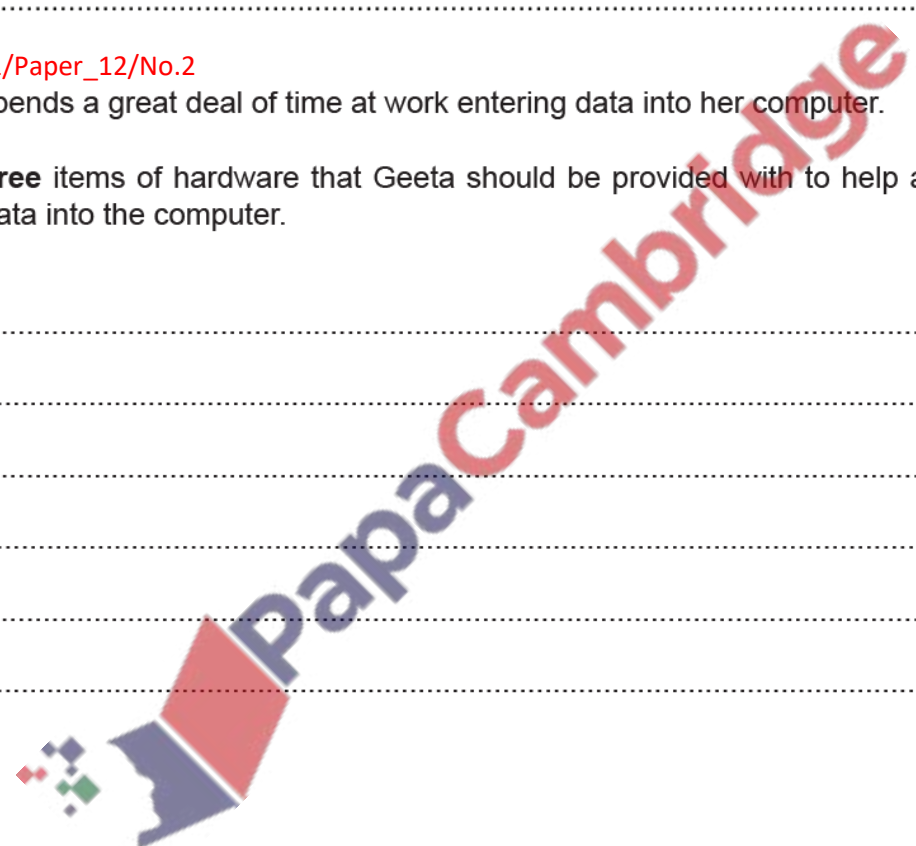
Tick (✓) whether the following are examples of personal data.

	Yes (✓)	No (✓)
Full name		
Capital of England		
Gender		
Number of flowers in a garden		

[2]

10.
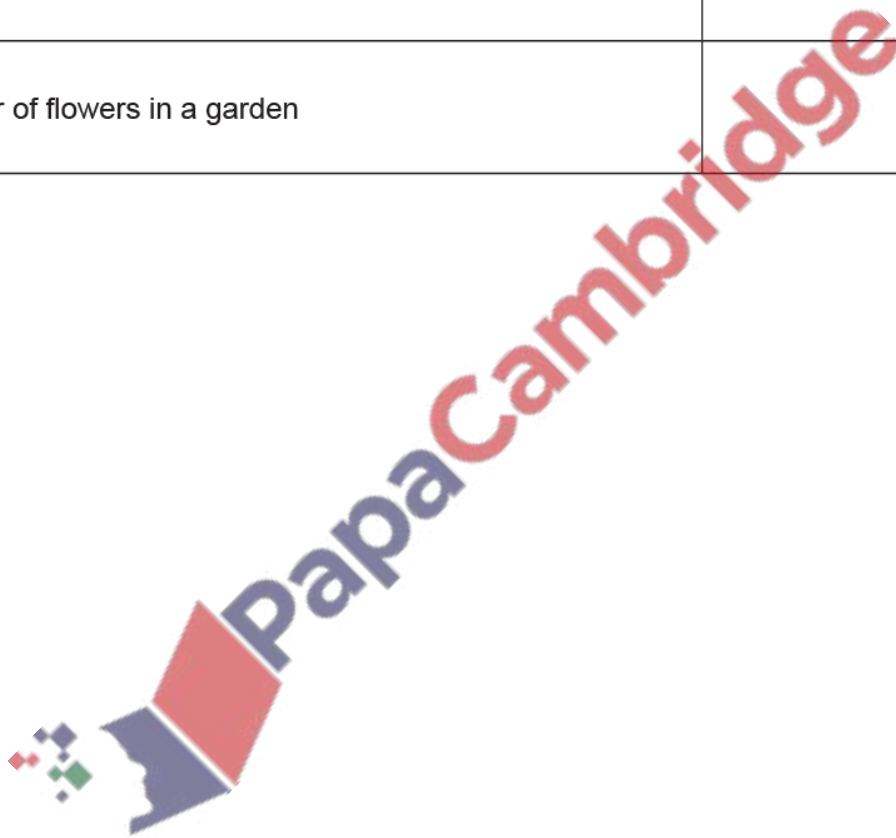
Data stored on a computer system is at risk of being hacked.

(a) Explain what is meant by the term hacking. Include in your answer **two** examples of the effects this can have on the computer system.

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(b) Describe **three** measures that could be taken to protect the data from being hacked.

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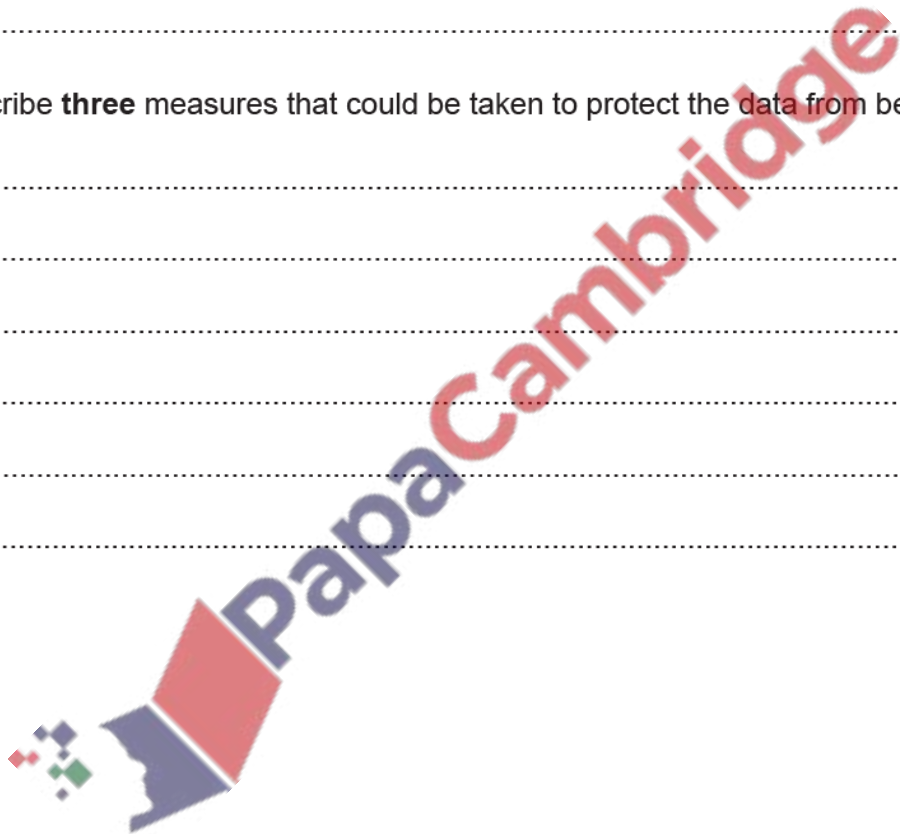
Complete the sentences below using the most appropriate word from the list.

cookies	hacking	pharming	phishing
smishing	spam	spyware	virus

(a) The act of gaining unauthorised access to a computer system is called

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(b) The software that gathers data by monitoring key presses on a user's keyboard is called

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(c) A fake text message, that could contain a link, sent to a mobile phone is called

.... [1]

12. June/2021/Paper_12/No.8

Students often use IT equipment; therefore it is important to have a good physical safety strategy.

Evaluate your own use of IT equipment, in terms of physical safety, and describe the strategies you will need to minimise the potential physical safety risks.

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13.

When an email is sent, it could have a digital certificate attached.

Explain why a digital certificate is required. Include in your answer items that could be found in a digital certificate.

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14.

Data stored in a computer needs to be protected.

(a) Describe what is meant by encryption.

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15. Nov/2020/Paper_11/No.9

There have been a number of incidents where laptop computers containing highly sensitive data have been left on trains. Manufacturers are now developing new ways of protecting laptop computers and their data.

Discuss the effectiveness of different methods which could be used to protect the data.

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A teacher is teaching students about history using a virtual reality (VR) system.

(a) Identify **three** devices that could be used with a VR system.

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(b) The teacher carefully monitors the students' use of the VR system. She only allows them 20 minutes on the device before taking a break. This is to ensure that they remain healthy whilst using it.

Identify **three** health problems associated with the prolonged use of VR systems.

Problem 1 ....

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Problem 2 ....

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Problem 3 ....

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[3]

(c) Smishing, pharming and phishing are three security threats that can occur when using the internet for shopping.

Tick (✓) whether the following statements refer to **pharming**, **phishing** or **smishing**.

	pharming (✓)	phishing (✓)	smishing (✓)
Fake emails are sent to target users			
When the user types in a URL they are directed to a fake website			
Malicious code is installed on the user's computer			
Fake text messages are sent to the user's phone			

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18.

For each of the following pieces of hardware, explain the strategies you would use to help minimise health problems.

(a) Monitor ....

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(b) Keyboard ....

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19.

When people use the internet for shopping and banking it is essential that they use a website that has a secure server.

(a) Describe the features of a web page that identify it as using a secure server.

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(b) As more and more people use smartphones as computer systems, security can be breached. Smishing and pharming are ways in which data can be compromised on a smartphone.

Compare and contrast smishing and pharming.

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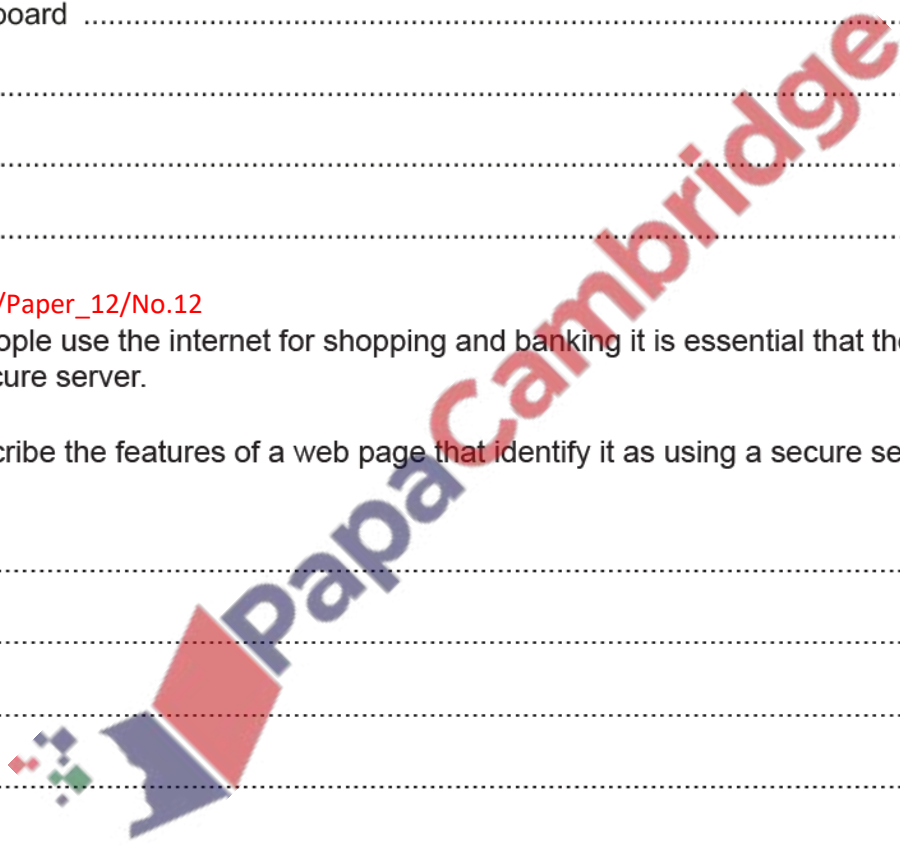
20. June/2020/Paper_11/No.5

Phishing and pharming can affect the security of a user's data.

(a) Compare and contrast phishing and pharming.

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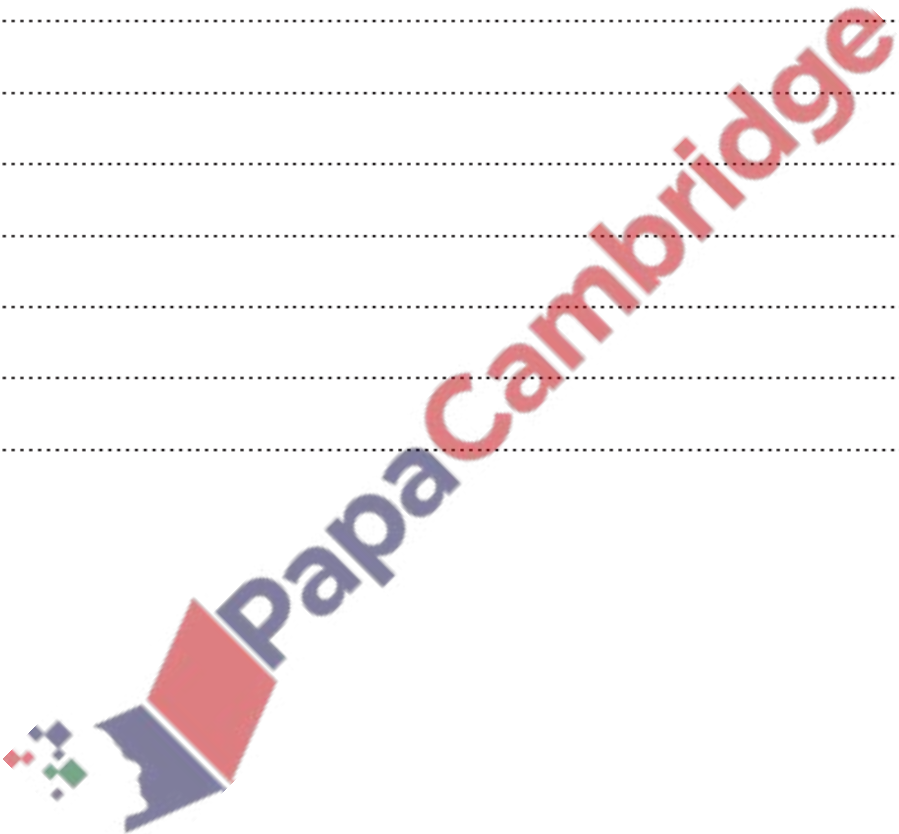
(b) Smishing is another security issue. Describe the methods which can be used to help prevent smishing.

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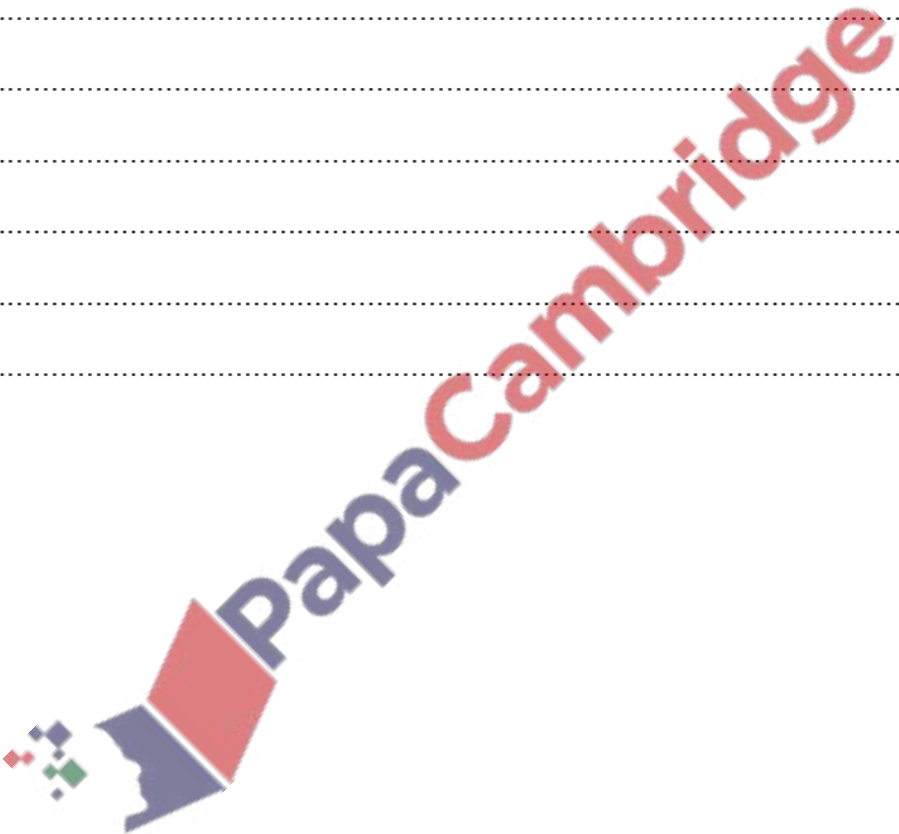
Following recent data protection issues the personal data we allow organisations to share about us may be reduced.

(a) Discuss the benefits and drawbacks of trying to keep personal data confidential and secure.

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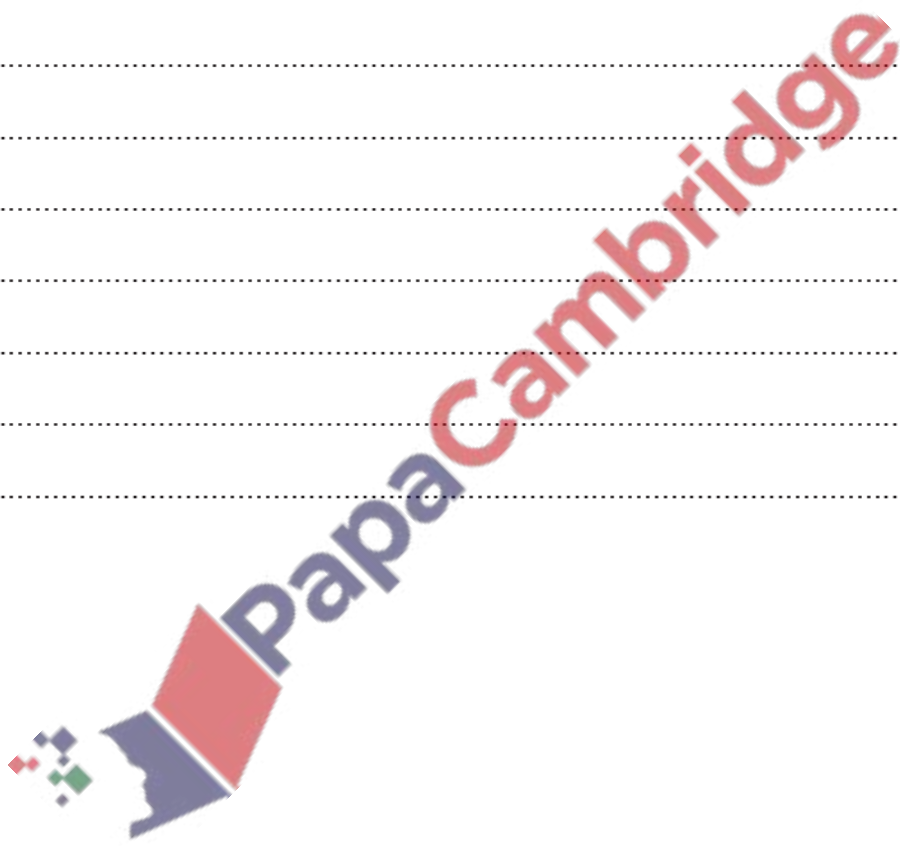
(b) The sharing of email addresses can lead to spam.

Explain what is meant by the term spam email.

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(c) Explain why spam email should be prevented.

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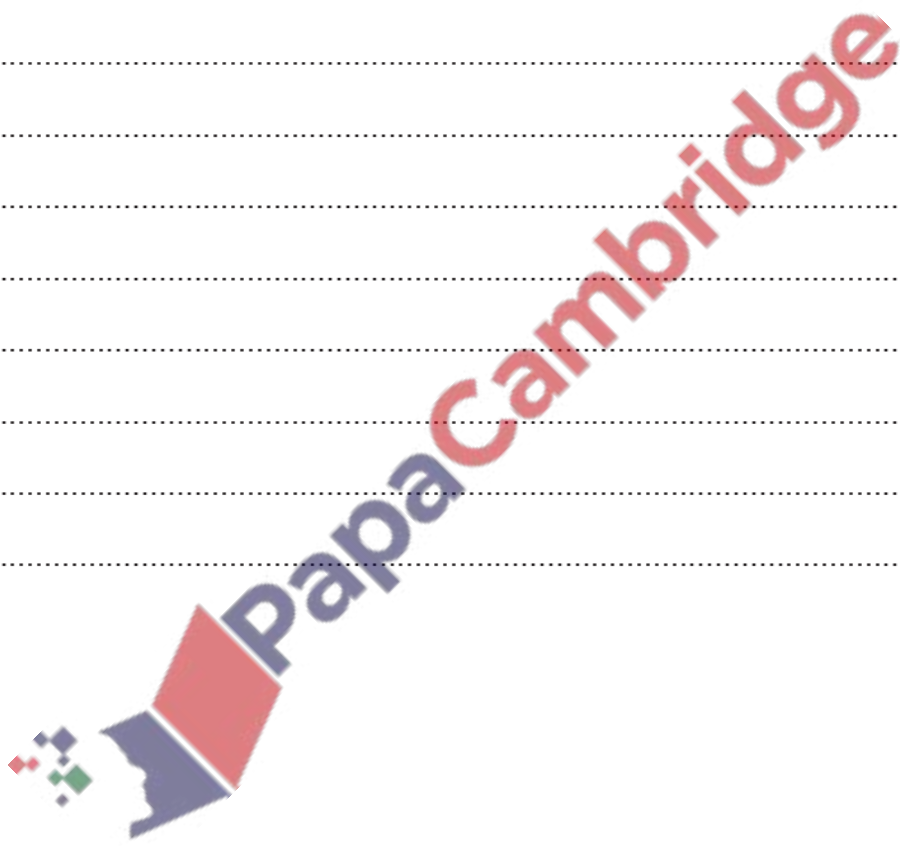
22. June/2020/Paper_11/No.12

The way we buy products using credit cards has changed in recent years. Originally the magnetic stripe on the back of the card was used with a signature. Then chip and PIN methods were used, and more recently contactless methods have been introduced.

Discuss the effectiveness of using these different methods to improve security when paying for goods.

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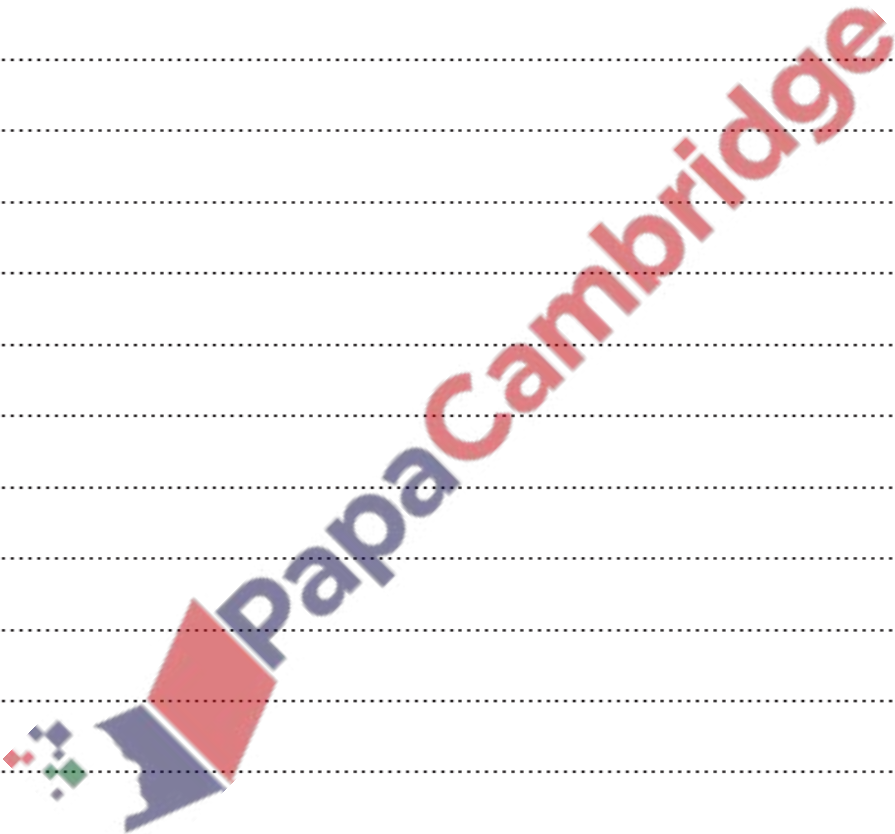
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23. June/2020/Paper_12/No.6

Smishing and phishing can affect the security of a user's data.

(a) Compare and contrast smishing and phishing.

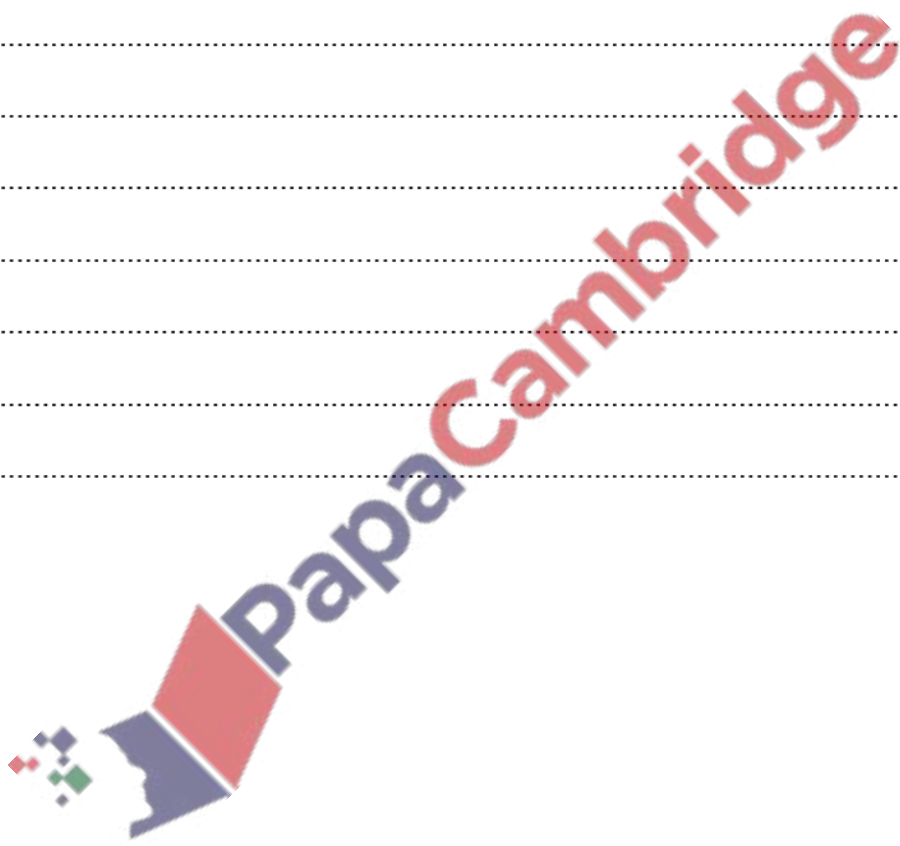...

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(b) Describe the methods which can be used to help prevent phishing.

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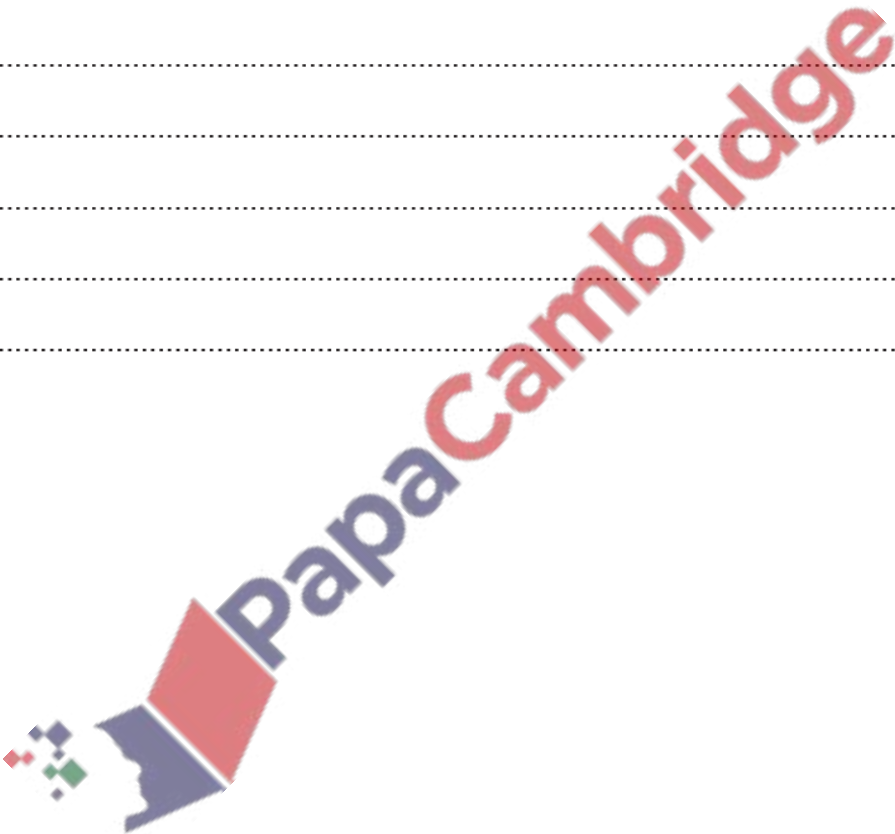
24. June/2020/Paper_12/No.12

(a) Describe repetitive strain injury (RSI) and explain what causes it.

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(b) Give **three** ways of minimising the risk of RSI.

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25. June/2020/Paper_13/No.7

A train company is improving security on its journeys. They are planning to introduce a facial recognition system for passengers using their trains.

(a) Discuss the advantages and disadvantages of using facial recognition systems rather than manually checking tickets.

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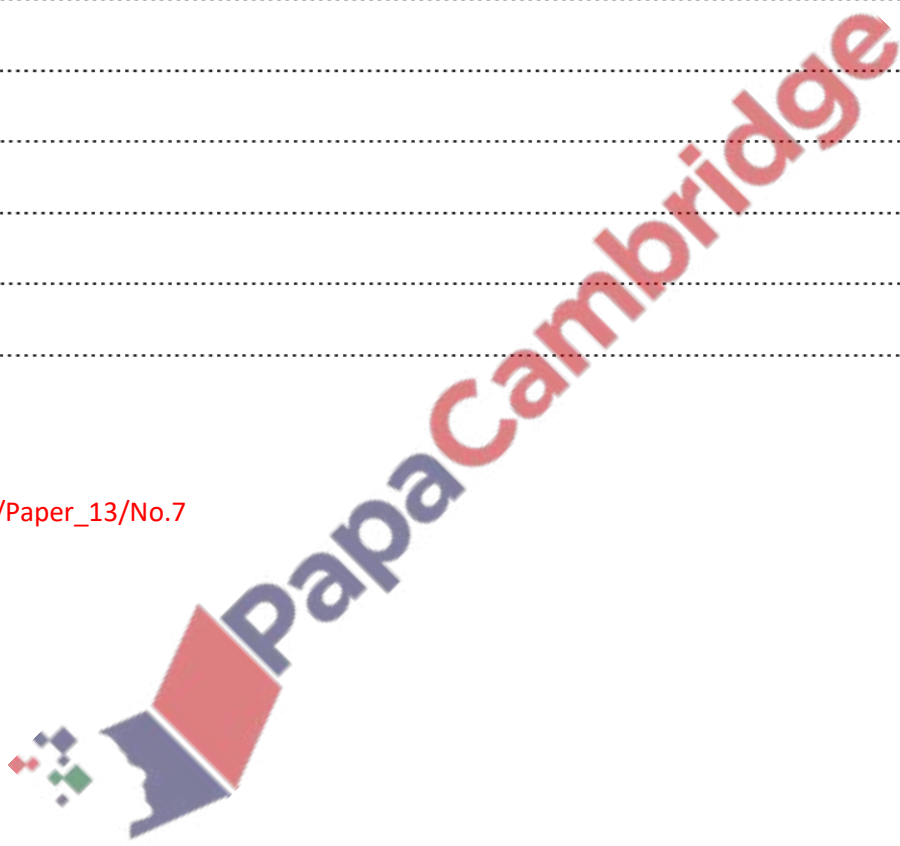
(b) Facial recognition is an example of biometrics. Direct data entry devices can be in three forms. One is biometrics. The second is contactless where the item being read does not touch the reader. The third is physical where the item being read does touch the reader.

Tick (✓) whether the following are the most appropriate examples of biometrics or contactless or physical direct data entry.

	biometrics (✓)	contactless (✓)	physical (✓)
RFID			
Magnetic stripe			
Retina scan			
Voice recognition			

[4]