Topic: 1.2.2 / 1.4 Security aspects

May/June 2007 P1 (7010)
1 Explain, with examples, the following five computer terms:
(a) virus   [2]
(b) verification   [2]

18 A company has bought laptop computers for training purposes and for information retrieval. These computers will use the Internet and have multimedia capabilities.
(a) State two advantages and one disadvantage of using the Internet to search for information when compared to using CD-ROMs or paper-based systems.   [3]
(b) The company has chosen to use broadband for Internet connections.   [1]
(c) The laptops are linked to the network using wireless connections. Give one advantage and one disadvantage of using wireless connections.   [2]

Oct/Nov 2007. P1 (7010)
4 Online banking using the Internet is now increasing.
(a) Give one advantage to the customer of using online banking.   [1]
(b) Give one advantage to the bank of providing online banking.   [1]
(c) Online banking has an impact on society as a whole.
(i) Give one positive effect.
(ii) Give one negative effect.   [2]
(d) Describe two concerns people might have regarding online banking.   [2]

5 (a) (i) Name one method used to protect data against unauthorised access.   [1]
(ii) Name one method used to protect data in a file from being understood when an unauthorised person has gained access to the file.   [   ] [1]

May/June 2008 P1 (7010)
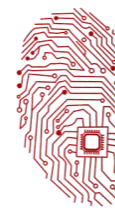
5 Computer systems can be affected by viruses.
(a) What is a virus?   [1]
(b) Give one effect of a virus.   [1]
(c) How can a system be protected from viruses?   [1]
(d) Why would backing up data not guard against the effect of a virus?   [1]

6 Students' records are kept on a stand-alone computer (no network connections) in the principal's office.
(a) It is sometimes necessary to alter students' records. To do this efficiently, individual records need to be retrieved quickly.
(i) What type of file access should be used?   [1]
(ii) What type of magnetic medium allows this type of access?   [1]
(b) Give two examples of when a student's record would need to be altered.   [2]
(c) Students are concerned that their personal data could be misused. Name two methods that could be used to ensure personal data is kept secure.   [2]

(d) Examination results are stored in students' records as marks out of 100. Give twodifferent validation checks that could be performed on students' marks. [2]

May/June 2009 P1 (7010)

7 Jon decides to buy a notebook (laptop) computer which he connects to the internet using aWiFi (wireless) broadband connection. Describe four security issues. [4]

Oct/Nov 2009 P1 (7010)

3 A school decides to allow internet access on all its networked computers.
(a) Describe two problems this could create and how the system could be protectedagainst these problems. [4]

(b) Student records are stored on a computer. This is linked to the network to allow teachers to access information from anywhere on the school site.
(i) How is it possible to prevent unauthorised access to student records? [1]

May/June 2010 P11 (7010)

16 A company has set up an Internet website to sell their electrical goods online.
(a) Give two features you would expect to see on the website. [2]
(b) Payments for goods can be made by credit/debit cards. Data from the cards isencrypted.
(i) What is encryption?
(ii) Why is data encrypted? [2]
(c) Apart from credit card fraud, people have other fears about buying from the Internet. Describe one of these fears. [1]

17 (a) Two methods of connecting to the Internet are dial-up and broadband.
Give two advantages of using broadband. [2]
(b) Computers often use wireless (WiFi) technology to connect to the Internet. Give one advantage and one disadvantage of using WiFi. [2]
(c) Apart from computers, name another device that uses WiFi technology. [1]

Oct/Nov 2010 P11/12 (7010)

1 Explain, using examples where appropriate, the following five computer terms:
(a) Check digit [2]
3 (b) Give one advantage of having computers connected on a network. [1]
(c) Give one disadvantage of having computers connected on a network. [1]

4(b) Sometimes it is necessary to key in the password twice.
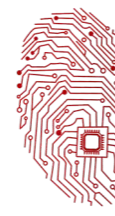Name this type of data check. [1]

Oct/Nov 2010 P11/13 (7010)

10 (a) What is meant by a virus? [2]
(b) What is meant by encryption? [2]
(c) (i) A student wrote "I would make backup copies of my data to guard against viruses".
Why is the student's statement not necessarily true? [1]

Topic: 1.2.2 / 1.4 Security aspects

(ii) The same student also wrote "Encryption would stop a hacker accessing the datain my computer files".
Why is the student's statement incorrect?   [1]

May/June 2011 P12 (7010)

4 A company has decided to introduce an intranet andremove Internet access for its staff.
(a) Describe TWO reasons why the company will notallow its staff Internet access.   [2]
(b) Apart from removing Internet access, give TWOadvantages to the company of using an intranet.   [2]

6 FIVE security or data loss issues are shown on the lefthand side.
FIVE possible methods of data recovery or protectionare shown on the right.
Match the definitions/descriptions on the left to themost appropriate method on the right by drawingconnecting arrows.

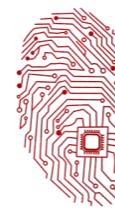| ISSUES	METHODS
Data loss caused by hard disk head crash	Anti-virus software
Hacking into files and changing or deleting data	Encryption
Introduction of software that self-replicates and can cause data loss	Anti-spyware software
Reading of illegally accessed documents	Make back-up files
Software that logs/records all key presses on your computer without you knowing	Use of passwords and a firewall

[5]

13 Describe THREE ADVANTAGES and TWODISADVANTAGES to the general public of using theInternet to do online shopping.   [5]

Topic: 1.2.2 / 1.4 Security aspects

Oct/Nov 2011 P11/12 (7010)

16 A company has bought some computers which can be used as stand-alone or networked.
(a) When used as stand-alone, there is a risk of information being stolen.
Give two ways this risk could be removed or minimized. [2]
(b) There are additional, different security risks when using the computers on a network.
Describe two of these risks and how the system can be protected against them. [4]

Oct/Nov 2011 P13 (7010)

1 (a) Give two benefits of networking a set of computers. [2]
(b) A college decides to use network computers with wireless capability.
Give one advantage and one disadvantage of using wireless systems. [2]

6 (a) What is meant by the term web browser? [1]
(b) Rock-ICT has set up a website as shown below:

Give the names of the three parts that have been labelled: [3]
(c) How does the website recognise the user's buying preferences as soon as they visit the website? [1]
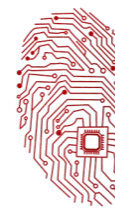
May/June 2012 P11 (7010)

3 A computer system is to have wireless access (Wi-Fi) to the Internet.
State five potential security issues. [5]

Oct/Nov 2012 P12 (7010)

10 A computer system is to have access to the Internet.
Name and describe three potential security issues. [6]

Topic: 1.2.2 / 1.4 Security aspects

May/June 2013 P11 (7010)

3 (a) Which of the following activities should always be regarded as security risks tocomputer systems?
Indicate by ticking (_) the Yes or No column.

Activity	Yes	No
chat rooms		
cookies		
pharming		
virus		
VoIP		

[2]

(b) State what is meant by the five computer terms in the table.
chat rooms
cookies
pharming
virus
VoIP   [5]

4 (b) Give one benefit and one drawback of networking computers.   [2]
(c) Many networks are known as LAN or WAN.
Give one feature of each type of network.   [2]

May/June 2013 P12 (7010)

5
(b) Part of the company's security strategy is to use a firewall.
Describe two features of a firewall.   [2]
(c) Connecting to the Internet can cause potential problems.
State two of these problems.   [2]

Oct/Nov 2013 P12 (7010)
13 A company advertises its Internet broadband speeds as follows:
• download speed of 128 megabits per second
• upload speed of 16 megabits per second (8 bits = 1 byte)
(a) Explain what is meant by the two terms download speed and upload speed.
download speed
upload speed   [2]

(b) Give two advantages of using broadband rather than dial-up. [2]
(c) Give two different scenarios when a fast broadband connection is essential. [2]
(d) How many 4-megabyte files could be downloaded per second using this company's broadband? [1]

May/June 2014 P12 (7010)

8
(d) Legitimate-looking email sent to a user in the hope of gathering personal information; as soon as the recipient clicks on the link in the email (or email attachment) they are sent to a fake website. [1]
(e) Software that secretly gathers information by monitoring key presses on a user's keyboard; this information is relayed back to the person who sent the software originally. [1]

12 Camilo works as a hotel inspector. He travels to hotels in his own country and overseas. He visitsthe hotels and then sends back a report to his head office after each hotel visit.
(a) Name three modern electronic devices that Camilo could use to help him with his work. Give a different reason for your choice of each device. [6]
(b) Most of the hotels offer wireless Internet (Wi-Fi) in the rooms.
Give two disadvantages of using wireless (Wi-Fi) rather than wired Internet access. [2]

16 An encryption system gives each letter of the alphabet a value:
A = 1, B = 2, C = 3, ... , Y = 25, Z = 26.
Each letter is stored in a 12-bit binary register. The letter "S" (19th letter) is stored as:

2048	1024	512	256	128	64	32	16	8	4	2	1
0	0	0	0	0	0	0	1	0	0	1	1

A 4-bit register is used to store the encryption key. This register shows how many places the bitsare shifted to the left in the 12-bit register when it is encrypted. So,

8	4	2	1
0	1	0	1

means each bit in the 12-bit register is shifted 5 places to the left and the register now becomes:

2048	1024	512	256	128	64	32	16	8	4	2	1
0	0	1	0	0	1	1	0	0	0	0	0

Therefore, the letter "S" would be transmitted with the 4-bit register and the 12-bit register asfollows:

0	1	0	1	0	0	1	0	0	1	1	0	0	0	0	0

Topic: 1.2.2 / 1.4 Security aspects

(a) "W" is the 23rd letter of the alphabet.

(i) Show how this letter would be stored in the 12-bit register before encryption:

(ii) The 4-bit register contains the following value:

8	4	2	1
0	1	1	0

Show how the letter "W" is now stored in the 12-bit register in encrypted form:

(b) Find which letter of the alphabet has been encrypted here. (Show all your working.)

0	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0

(c) (i) What is the largest encryption key that can be stored in the 4-bit register?

8	4	2	1

(ii) Convert this into denary (base 10).

(iii) If this encryption key were used, what problem would it cause?   [3]

May/June 2006

10 Many bank customers now bank on-line using the Internet.

(a) State two advantages for the bank of on-line banking.   [2]

(b) State two disadvantages for a bank customer of on-line banking.   [2]

(c) State three data protection rules that could apply to the customer data stored on a bankcomputer system.   [3]
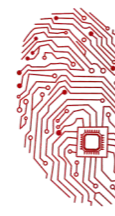
Oct/Nov 2006

3 (a) Give two examples of computer crime.   [2]

(b) Describe two methods used to prevent computer crime.   [2]

4 State three effects on society due to the increase of businesses using e-commerce.   [3]

Topic: 1.2.2 / 1.4 Security aspects

May/June 2007

7 A hospital has decided to computerise its administration system.
(a) Give three ways this could affect the hospital workers. [3]
The hospital will be using a database which holds confidential personal data.
(b) State two precautions that the hospital should take to prevent unauthorised access to the data. [2]
(c) Describe how the database could be recovered if it became corrupted. [1]
(d) Give one example, in each case, of when it would be necessary to amend data, deletedata and insert data into the patient database. [3]

Oct/Nov 2007

4 Online banking using the Internet is now increasing.
(a) Give one advantage to the customer of using online banking. [1]
(b) Give one advantage to the bank of providing online banking. [1]
(c) Online banking has an impact on society as a whole.
(i) Give one positive effect.
(ii) Give one negative effect. [2]
(d) Describe two concerns people might have regarding online banking. [2]

5 (a) (i) Name one method used to protect data against unauthorised access. [1]
(ii) Name one method used to protect data in a file from being understood when anunauthorised person has gained access to the file. [1]

May/June 2008

5 Computer systems can be affected by viruses.
(a) What is a virus? [1]
(b) Give one effect of a virus. [1]
(c) How can a system be protected from viruses? [1]
(d) Why would backing up data not guard against the effect of a virus? [1]

Students' records are kept on a stand-alone computer (no network connections) in the principal's office.
(c) Students are concerned that their personal data could be misused. Name two methods that could be used to ensure personal data is kept secure. [2]

May/June 2008

6 Students' records are kept on a stand-alone computer (no network connections) in theprincipal's office.
(a) It is sometimes necessary to alter students' records. To do this efficiently, individualrecords need to be retrieved quickly.
(i) What type of file access should be used? [1]
(ii) What type of magnetic medium allows this type of access? [1]

Topic: 1.2.2 / 1.4 Security aspects

(b) Give two examples of when a student's record would need to be altered. [2]
(c) Students are concerned that their personal data could be misused. Name two methodsthat could be used to ensure personal data is kept secure. [2]

Oct/Nov 2008

4 Computer systems can be affected in various ways which could lead to data corruption. Give two ways that data might be corrupted and suggest a method of protection for each.
[4]

Oct/Nov 2008

8 To gain access to a database, a user must first type in a user ID and then a passwordwhich needs to be verified.
(a) How is a password usually verified? [1]
(b) In spite of these safeguards, unauthorised access to the database is still possible. What could be done:
(i) to prevent data being used by unauthorised people? [1]
(ii) to prevent loss of data once the database has been illegally accessed? [1]

May/June 2010 P11

4 A company is concerned about three aspects of the security of data stored in computer files:
• data corruption
• data loss
• illegal access to data
For each of the above, give one reason why it could occur and state one method ofprevention. Your reasons must be different in each case. [6]

16 A company has set up an Internet website to sell their electrical goods online.
(a) Give two features you would expect to see on the website. [2]
(b) Payments for goods can be made by credit/debit cards. Data from the cards isencrypted.
(i) What is encryption?
(ii) Why is data encrypted? [2]
(c) Apart from credit card fraud, people have other fears about buying from the Internet. Describe one of these fears. [1]
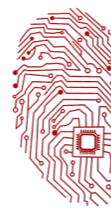
Topic: 1.2.2 / 1.4 Security aspects

Oct/Nov 2010 P11

A college secretary inputs data into fields on a computer screen as shown below:

Examination Results

Student Sex: Subject:
Today's Date: Grade:
Examination Result (%):

(c) The secretary takes a ten minute break every hour.

(i) Apart from switching off, how can the secretary make sure the computer system issecure whilst she takes a ten minute break?

(ii) From a health and safety aspect, why does the secretary need to take regularbreaks?

Oct/Nov 2010 P12

5 A bank is worried about computer crime.

One of their concerns is online access to customer accounts.

(a) How can a customer's access details be discovered by criminals?   [2]

(b) Why would a customer using a credit card for online shopping be more of a securityrisk than a customer using the same card in a shop?   [2]

(c) Describe what measures the bank can take to safeguard customer accounts.   [2]

May/June 2011 P11

3 A worker at a company has to go through a logon procedure to gain access to her computersystem.

(a) The first thing she has to do is type in a user name and a password.

Why is this done?   [1]

(b) The password is typed in twice.

Why is this done?   [1]

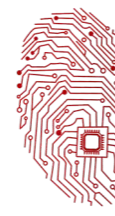A menu then appears on her screen. She chooses to connect to the Internet.

(c) Describe two ways her computer system is protected against loss or corruption of filesonce the computer system is connected to the Internet.   [2]

(d) The worker leaves her computer system for a 10-minute break.

(i) From a health and safety aspect, why does she need to take a regular break?

(ii) Apart from switching off her machine, how could she ensure her computer systemwas secure whilst taking her regular break?   [2]

Topic: 1.2.2 / 1.4 Security aspects

May/June 2011 P12

6 FIVE security or data loss issues are shown on the lefthand side.
FIVE possible methods of data recovery or protectionare shown on the right.
Match the definitions/descriptions on the left to themost appropriate method on the right by drawingconnecting arrows.

ISSUES	METHODS
Data loss caused by hard disk head crash	Anti-virus software
Hacking into files and changing or deleting data	Encryption
Introduction of software that self-replicates and can cause data loss	Anti-spyware software
Reading of illegally accessed documents	Make back-up files
Software that logs/records all key presses on your computer without you knowing	Use of passwords and a firewall

[5]

May/June 2012 P11

2 Describe ways to guard against each of the following Internet security issues. (A different method should be given in each case.)
1. viruses
2. hacking
3. spyware
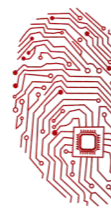4. phishing
5. tapping into wireless networks [5]

10 Jatinder uses Internet banking.

(a) Give one benefit and one drawback of using Internet banking. [2]

Topic: 1.2.2 / 1.4 Security aspects

Oct/Nov 2012 P12

7 (a) Lucy wrote: "I should validate the input into my database by typing in the same data twice".
Why was her statement incorrect?   [2]
(b) She lost all her photographs when her computer crashed.
(i) What is meant by the term crashed?
(ii) How could she have avoided losing all her photographs?   [2]
(c) Lucy was sent an important attachment in an email, but couldn't open it.
Give a reason why she couldn't open the attachment.   [1]
(d) She decided to invest in a wireless (Wi-Fi) mouse and keyboard for her computer.
Give one benefit and one drawback of using wireless devices.   [2]

May/June 2013 P11

3 (a) Which of the following activities should always be regarded as security risks tocomputer systems?
Indicate by ticking (_) the Yes or No column.

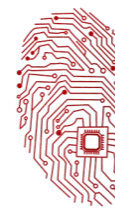| Activity	Yes	No
chat rooms		
cookies		
pharming		
virus		
VoIP		

[2]

7 Which five computer terms are being described below?
(i) typing in the same data twice and the computer checks both sets of data to see if they exactly match
(v) count of the number of bits before transmission which is sent with the transmission so that the receiver can check to see whether the same number of bits have arrived   [5]

Topic: 1.2.2 / 1.4 Security aspects

Oct/Nov 2013 P12

1 Internet security is a major issue for many people. The following is a list of five typical security issues:
• hacking
• pharming
• phishing
• spyware
• viruses
Choose three of these security issues.
For each one, describe the security issue and suggest a way of protecting against it.   [6]

12 A shop uses an information screen linked to a computer to allow customers to order goodsdirectly.
The first screen shows three options:

| electrical goods |
| furniture |
| stationery |

(b) The customer is then sent to another screen where they have to input:
• the goods reference number which is 8 digits long
• today's date which must be in the form dd/mm/yyyy
• the customer's telephone number
For each input give one validation check that should be performed.
A different type of check must be given in each case.
goods reference number
today's date
telephone number   [3]

Topic: 1.2.2 / 1.4 Security aspects

Oct/Nov 2013 P13

1 (b) Data being held is often referred to as Personal or Sensitive Personal data.
Give two examples of each type of data.
Personal Data
Sensitive Personal Data   [4]

4 A customer logs on to a bank website so that she can access her account.
(a) The first thing she was asked to do was to give the 3rd, 4th and 7th character of her password. This was done using drop-down boxes:
Give two reasons why the customer was asked to supply only 3 characters from her password.   [2]
(b) Authentication is a technique used in bank security to check that the customer is who they say they are. This involves three pieces of information, other than the password, all related to the customer.
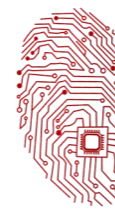Give three examples of suitable information: [3]

May/June 2014 P11 (7010)
4 The diagram below shows a number of descriptions and terms used in computer security. By drawing arrows, connect the correct description to the computer security term.
Program installed.

Topic: 1.2.2 / 1.4 Security aspects

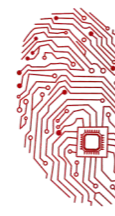|	
Program installed on a PC to gather data about the user. It monitors every key press and relays the data back to the home base.	Cookies
Junk (unsolicited) electronic mail advertising products and services sent to a general mailing list.	Phishing
Sending an email that claims to be from a legitimate company; the recipient is then directed to a bogus website where their personal details will be collected.	Pharming
Malicious code installed on a PC or on a server. This code directs users to a fraudulent website without their knowledge.	Spyware
Act of locating and possibly exploiting a wireless network by touring an area. This requires a laptop with relevant software and an antenna.	Spam
Information that a website stores about a user on the user's hard disk; this enables the website to remember details about the user when they next visit the website.	War-driving

[5]

Topic: 1.2.2 / 1.4 Security aspects

May/June 2015 P11 (2210)

6 (a) Viruses, pharming and phishing are all examples of potential Internet security issues.
Explain what is meant by each of these **three** terms.
Virus
Pharming
Phishing   [6]

(b) An online bank requires a client to supply an 8-digit code each time they wish to access theiraccount on the bank's website.
Rather than ask the client to use a keyboard, they are requested to use an on-screen keypad (shown on the right) to input the8-digit code.
The position of the digits on the keypad can change each time the website is visited.
The client uses a mouse or touch screen to select each of the 8 digits.

2	5	1
6	8	3
9	0	4
	7	
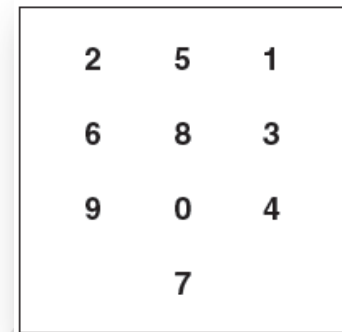
(i) Explain why the bank has chosen to use this method of entering the 8 digits.   [2]
(ii) Name and describe **another** measure that the bank could introduce to improve the security of their website.
Name
Description   [2]

May/June 2015 P12 (2210)

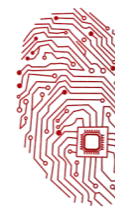**1 (a)** Four statements about cookies are shown in the table below.
Study each statement.

Tick (✓) to show whether the statement is true or false.

Statement	True	False
they are a form of spyware		
they are used only in advertising		
they are used to track browser use		
they act in the same way as a virus		

[4]

Topic: 1.2.2 / 1.4 Security aspects

(b) Five descriptions and five security issues are shown below.
Draw a line to connect each description to the correct security issue.

Description   **Security issue**

| malicious code installed on the hard drive of a user's computer or on the web server; this code will re-direct user to a fake web site without their consent | | hacking |

| software that gathers information by monitoring key presses on a user's computer and relays the information back to the person who sent the software | | pharming |

| program or code that replicates itself and is designed to amend, delete or copy data and files on a user's computer without their consent | | phishing |

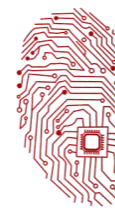| the act of gaining illegal access to a computer system without the owner's consent | | spyware |

| creator of code sends out a legitimate-looking email in the hope of gathering personal and financial data; it requires the recipient to follow a link in the email or open an attachment | | virus |

[4]

Topic: 1.2.2 / 1.4 Security aspects

4 (a) State what is meant by the term SSL. **[1]**

(b) The following stages take place when a user wishes to access a secure website.
Put each stage in sequence by writing the numbers 1 to 6 in the column on the right. The first one has been done for you.

Stage	Sequence number
the encrypted data is then shared securely between the web browser and the web server	
the web browser attempts to connect to a website which is secured by SSL	1
the web server sends the web browser a copy of its SSL certificate	
the web browser requests the web server to identify itself	
the web server will then send back some form of acknowledgement to allow the SSL encrypted session to begin	
the web browser checks whether the SSL certificate is trustworthy; if it is, then the web browser sends a message back to the web server	

[5]

Oct/Nov 2015 P12 (2210)

1 There are a number of security risks associated with using the Internet.
Name **three** of these risks. For each, state why it is a risk and describe how the risk can be minimised. **[9]**

Oct/Nov 2015 P13 (2210)

4 (b) The four statements below refer to firewalls and proxy servers.
Study each statement.
Tick the appropriate column(s) to indicate whether the statement refers to a firewall and/or a proxy server.

Statement	Firewall	Proxy server
Speeds up access of information from a web server by using a cache		
Filters all Internet traffic coming into and out from a user's computer, intranet or private network		
Helps to prevent malware, including viruses, from entering a user's computer		
Keeps a list of undesirable websites and IP addresses		

[4]

(c) Explain **three** ways of preventing **accidental** loss or corruption of data. [6]

10 Choose **five** correct terms from the following list to complete the spaces in the sentences below:

- cypher text
- encryption algorithm
- encryption key
- firewall
- plain text
- proxy server
- symmetric encryption

.... is a security system.

It uses the same .... to encrypt and decrypt a message.

Before encryption, the message is called ....

The .... processes the original message.

The output is known as .... [5]

May/June 2016 P11 (2210)

6 Secure socket layer (SSL) is used in the security of information on Internet websites.

(a) State how it is possible for a user to know that a website is secure by looking at the web address. [1]

(b) Describe **three** of the stages a web browser goes through to detect whether a website is secure. [3]

8 A bank offers an online service to its customers. The bank has developed a "*SafeToUse*" system that asks each customer to enter four randomly chosen characters from their password each time they log in.

The customer selects these four characters from drop-down boxes. For example:

Please select the   2nd character   [▼]

5th character   [▼]

6th character   [▼]

8th character   [▼]
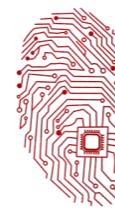
Topic: 1.2.2 / 1.4 Security aspects

(a) (i) Explain why it is more secure to use drop-down boxes rather than entering characters using a keyboard. **[2]**
(ii) Give a reason why the system asks for four characters chosen at random. **[1]**
(b) Biometrics is an additional form of security.
Give **two** examples of biometrics. **[2]**

10 Six security issues and **six** descriptions are shown below.
Draw a line to link each security issue to its correct description.

Security issue	Description
Pharming	illegal access to a computer system without the owner's consent or knowledge
Phishing	software that gathers information by monitoring key presses on a user's keyboard; the data is sent back to the originator of the software
Viruses	malicious code installed on the hard drive of a user's computer or on a web server; this code will re-direct the user to a fake website without the user's knowledge
Hacking	creator of code sends out a legitimate-looking email in the hope of gathering personal and financial information from the recipient; it requires the user to click on the link in the email or attachment
Spyware	a message given to a web browser by a web server; it is stored in a text file; the message is then sent back to the server each time the browser requests a page from the server
Cookies	program or code that replicates itself; designed to amend, delete or copy data or files on a user's computer; often causes the computer to crash or run slowly

Topic: 1.2.2 / 1.4 Security aspects

[5]

Oct/Nov 2015 P12 (2210)

1 There are a number of security risks associated with using the Internet.
Name three of these risks. For each, state why it is a risk and describe how the risk can be
minimised. **[9]**

May/June 2016 P12 (2210)

8(c) Security of data is very important.
Three security issues are viruses, pharming and spyware.
Explain what is meant by each issue. **[6]**
(d) Describe **three** tasks carried out by a firewall. **[3]**

Oct/Nov 2016 P12 (2210)

9 (a) Explain what is meant by a denial of service attack. **[2]**
(b) Name and describe **two other** potential security threats when using the Internet. **[4]**

Oct/Nov 2016 P13 (2210)

2 Name each of the potential security issues described in the **five** statements below:

Statement	Security issue
The act of gaining unauthorised access to a computer system	....
Program code that can replicate itself with the intention of deleting or corrupting files stored in a computer	....
A small file sent by a web server to a web browser; every time the user visits the website, data about user preferences is collected	....
The act of illegally changing the source code of a program so that it can be exploited for another use	....
Malicious code installed on a user's hard drive or a web server which redirects the user to a fake website without their knowledge	....

[5]
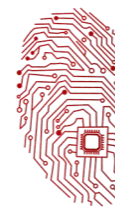
4 The Henslows Diner is a local restaurant.
(c) The Henslows Diner stores personal data on a computer. This computer is connected to the Internet to allow the data to be backed up.

There is currently one security method in place to protect the data on the computer from unauthorised access. This is a password.

Give **two** other security methods that could be added to improve the security of the data. Describe how each method will keep the data safe.   **[4]**
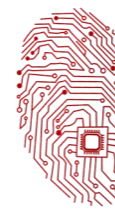
May/June 2017 P11 (2210)

7 Six security terms and **six** statements are listed below.
Draw a line to match the security term with the most appropriate statement.

Security term	Statement
Encryption	Provides a secure connection between web browsers and websites allowing secure transmission of private data.
Secure Socket Layer (SSL)	Computer that acts as an intermediary between a web browser and the Internet.
Pharming	Legitimate-looking email is sent in the hope of gathering personal information; it requires the user to click on a link in the email.
Phishing	Uses rules and criteria, set by the user, to help protect a network or system from unauthorised access.
Firewall	Malicious code installed on the hard drive of a user's computer; this code will redirect the user to a fake website without the user's knowledge.
Proxy server	Scrambles data for secure transmission.

[5]

Topic: 1.2.2 / 1.4 Security aspects

May/June 2017 P12 (2210)

8 A company has a number of offices around the world.

(a) Data is transmitted between the offices over the Internet. In order to keep the data safe the company is using Secure Socket Layer (SSL) protocol and a firewall at each office.

Explain how SSL protocol and a firewall will keep the company's data safe. **[4]**

(b) A company stores personal details of its customers on a computer system behind a firewall. Explain, with reasons, what else the company should do to keep this data safe. **[6]**

Oct/Nov 2017 P12(2210)

5 Raj is using the Internet to do some online shopping. He visits a website that tells him that it uses cookies.
(a) Explain what is meant by the term **cookies**. **[4]**

(b) Give **two** examples of the use of cookies. **[2]**

11 Complete the paragraphs choosing the correct five terms from the list. Each term can only be used once:
• Ethics
• Freeware
• Free Software
• Hacking
• Malware
• Plagiarism
• Shareware
• Virus

Taking another person's work from the Internet and claiming it as your own is called .... It is possible to protect your work online with copyright.
One product that people may want to protect is software. .... does allow a person to share, copy and change software freely, but .... does not allow a person to do this legally. Software that has a licence allowing free use for a trial period is called .... The name given to this area of Computer Science is ....

[5]

Oct/Nov 2017 P13(2210)

7 Six statements about firewalls are shown.

Topic: 1.2.2 / 1.4 Security aspects

Tick to show whether each statement is **true** or **false**.

Statement	true (✓)	false (✓)
Firewalls can monitor incoming and outgoing traffic.		
Firewalls operate by checking traffic against a set of rules.		
Firewalls cannot block access to a certain website.		
Firewalls can be software and hardware.		
Firewalls can act as intermediary servers.		
Firewalls can block unauthorised traffic.		

8 (a) Data is valuable. It needs to be kept secure and it can easily be damaged. Give **three** different ways that data can be accidentally damaged. **[3]**

(b) The Secure Socket Layer (SSL) protocol can be used to securely transmit data in online banking.
State **three** other different applications that use SSL. **[3]**

(c) Online banking is increasing in popularity.

Online banking can be a risk as it can raise a number of security issues. SSL can be used as a security method to make online banking safer.

Identify and describe **three** other security methods that could be used to make online banking safer. **[6]**

May/June 2018 P11 (2210)

10 (c) When a customer enters the website, a message is displayed:
"RockICT makes use of cookies. By continuing to browse you are agreeing to our use of cookies."
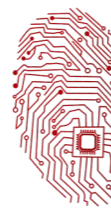Explain why the music company uses cookies **[2]**

(d) The music company is concerned about the security of its website.
The company uses a proxy server as part of its security system.
Describe the role of a proxy server in the security system.

[4]

Page **25** of **25**

03-111-222-ZAK

**OlevelComputer
AlevelComputer**

@zakonweb

zak@zakonweb.com

www.zakonweb.com