

QUESTION 1.

2



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]

(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]

QUESTION 2.

10



- 8 (a) **Five** statements and **three** types of software are shown below.

Draw lines to connect each statement with the correct type of software.

Statement

Users have the freedom to pass on the software to friends and family as they wish.

Users can download this software free of charge, but they cannot modify the source code in any way.

Users are allowed to try out the software for a trial period only before being charged.

Users can study the software source code and modify it, where necessary, to meet their own needs, without breaking copyright laws.

Users can obtain a free trial version of the software, but this often does not contain all the features of the full version.

Type of software

Free software

Freeware

Shareware

[3]



(b) Describe **three** ethical issues that should be considered when using computers.

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[3]

(c) Security of data is very important.

Three security issues are viruses, pharming and spyware.

Explain what is meant by each issue.

Viruses:

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Pharming:

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Spyware:

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[6]



(d) Describe **three** tasks carried out by a firewall.

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QUESTION 3.

2



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.

Security risk 1

Why it is a risk

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How to minimise the risk

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Security risk 2

Why it is a risk

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How to minimise the risk

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Security risk 3

Why it is a risk

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How to minimise the risk

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QUESTION 4.



4 (a) Computer ethics involves a number of different topics.

(i) A student made the following statement on an examination paper:

“It allows a user to have the freedom to run, copy, change and adapt the software then pass it on to a colleague, friend or family member.”

Identify which computer term the student was describing.

..... [1]

(ii) Explain what is meant by computer ethics.

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(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.

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QUESTION 5.



2 An electronic guessing game compares denary integer values input by a user with pre-stored values. The pre-stored values are held in 10-bit binary format.

(a) Convert the binary values in the table to denary.

Binary	Denary
0001001110	
0110110111	
1000000001	

[3]

(b) When planning the game, the designer decided to use hexadecimal notation to represent the binary values.

Explain why the designer used hexadecimal notation.

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(c) State the hexadecimal equivalent of the binary value 1010110101

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3 A company has several offices. It uses the Internet to transfer data between offices. The company also makes payments to staff and suppliers using online banking.

The company are concerned about spyware and other security aspects of using the Internet.

(a) Explain what is meant by spyware **and** how it is used to obtain data.

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..... [3]



(b) The company uses a web page to log on to the online bank.

Identify **one** method that could be used by the online bank to reduce the impact when logging on.

State **how** the method prevents the use of spyware.

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(c) The company has installed a firewall as part of its data security.

Describe how a firewall can help protect against unauthorised access to data.

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(d) State **two** other methods the company could use to help prevent unauthorised access to data.

Method 1

Method 2 [2]