Chhetri Academy

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GCSE COMPUTER SCIENCE

1.6

OCR J277 | Specification point 1.6.1

Ethical, legal, cultural and environmental impact

Untiered

Past paper question booklet

6	2014-2024	Untiered
question groups	available papers	tier

Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

5 Apu has a handheld e-book reader that allows him to store and read electronic books.

(a) State **one** input and **one** output device that can be built into the e-book reader to allow users to read books.

Input device .....

.....

Output device .....

.....

[2]

(b) Types of secondary storage devices are magnetic, optical or solid state.

(i) State which type of storage is most suitable for storing the electronic books inside the e-book reader.

..... **[1]**

(ii) Explain **one** reason why this type of storage is the most suitable.

.....

.....

.....

..... **[2]**

(c) Apu gets a free e-book on a CD-ROM from a magazine.

(i) Give **two** reasons why a CD-ROM is suitable in this case.

1 .....

.....

2 .....

.....

[2]

(ii) State whether a CD-ROM is magnetic, optical or solid state storage.

..... **[1]**

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(d) The manufacturer of the e-book reader provides proprietary software, which Apu can use to transfer the e-book from the CD-ROM to the e-book reader.

(i) Describe what is meant by proprietary software.

.....

.....

.....

..... **[2]**

(ii) Explain **one** advantage to the manufacturer of providing proprietary software instead of open source software.

.....

.....

.....

..... **[2]**

3* A small island has 100 people living on it. The island has just been connected to the Internet, after previously having no Internet or mobile phone signal.

Discuss the impact on the island's inhabitants and businesses of getting access to the Internet.

In your answer you might consider the impact on:

- inhabitants
- businesses
- ethical issues
- privacy issues

.....

.....

.....

8 Identify the legislation that relates to the following scenarios:

A programmer wants to protect their work from being copied or distributed.

.....

A person logs into a computer without permission by guessing the password.

.....

A person makes a request to view financial information held by a public authority.

.....

A hacker gains access to a company's files over a network without permission.

.....

A company collects data that it does not need about its customers.

.....

[5]

5 A software development company wants to protect their computer systems and data from unauthorised access.

(a) Identify **two** methods of physical security that the company could use to protect their computer systems.

1 .....

.....

2 .....

.....

[2]

(b) Identify **and** describe **two** software-based security methods that the company can use to protect their computer systems and data.

Method 1 .....

Description .....

.....

.....

.....

Method 2 .....

Description .....

.....

.....

.....

[6]

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(c) Tick (✓) **one** box on each row to identify the legislation that would cover each of the given events.

Event	The Data Protection Act (2018)	Computer Misuse Act (1990)	Copyright Designs and Patents Act (1988)
A company transmits personal data to another company without the individual's permission.			
A school accidentally publishes their students' addresses on the school website.			
The interface for a piece of software is replicated by a rival company.			
A user leaves a computer logged on and another person leaves them a message on their desktop.			
A student guesses their teacher's password and accesses their computer account.			

[5]

5 An artist has a computer that they use to create images.

Their computer has both hardware and software.

(a) The hardware includes primary and secondary storage.

(i) Explain why a computer needs both primary **and** secondary storage.

.....

.....

.....

..... **[2]**

(ii) Give **one** example of a secondary storage device that the artist's computer will have **and** an example of the data that will be stored on it.

Secondary storage device .....

Example data .....

.....

[2]

(iii) The computer has Virtual Memory (VM).

The table has four statements about VM. Not all of the statements are correct.

Tick (✓) the **True** column for the statements that are correct.

Re-write any statement that is incorrect in the **False** column by changing the statement to make it true.

Statement	True (✓)	False – rewrite the statement to make it true
A section of primary storage is partitioned to act as virtual memory		
Data from ROM is transferred into VM		
VM is needed when RAM is full, or nearly full		
Data from VM is transferred back to secondary storage when needed		

[4]

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(b) The computer has an operating system and utility software.

State the need for utility software in a computer.

.....

..... **[1]**

(c) The artist uploads images to be displayed on a website. This is a client-server relationship.

(i) Identify the computer that is acting as the client in this scenario **and** justify your choice.

Client computer .....

Justification .....

.....

.....

.....

[3]

(ii) Identify the computer that is acting as the server in this scenario **and** justify your choice.

Server computer .....

Justification .....

.....

.....

.....

[3]

(d) The artist is working with a programmer on the development of a new piece of software.

The software will allow users to edit images on devices such as mobile telephones.

They are considering releasing the software as open source instead of proprietary.

(i) Describe **two** benefits to the artist and programmer of releasing the software as proprietary.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

(ii) Describe **one** benefit to the users of releasing the software as open source.

.....

.....

.....

..... **[2]**

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4* A computer programmer has developed a computer game that they want to release for users to download over the internet. The programmer needs to decide whether to release the game as open source or proprietary software.

Discuss the features, benefits and drawbacks of each type of licence for this program and make a recommendation to the programmer.

You should include the following in your answer:
- features of each licence
- legal and ethical issues of each licence
- benefits and drawbacks of each licence. **[8]**

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