Chhetri Academy

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GCSE COMPUTER SCIENCE

5.2

Edexcel 1CP2 | Specification point 5.2.3

Methods of intellectual property protection for computer systems and software (copyright, patents,...

Untiered

Past paper question booklet

3	2023-2025	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.

3 Issues and impact

(a) Computer worms are a type of malware.

Describe **one** way that a worm can move from machine to machine.

(2)

(b) The source code of a software application is automatically copyrighted.

State **one other** method of intellectual property protection to control who can use a software application.

(1)

(c) Computer programs control some aeroplane landings.

Explain **one** reason computers are **not** capable of safely controlling all aeroplane landings.

(2)

(d) Large amounts of water are used to manufacture computer chips.

Describe **one** way this impacts the environment.

(2)

(e) There are ethical and legal issues with the collection and use of personal data.

Complete the table with the ethical or legal issue for each situation.

One row has been completed for you.

(2)

Situation	Ethical or legal issue
An online learning platform publishes data about how students answer questions.	Consent
A teacher uses another teacher's login to change student grades.	
A school displays closed-circuit television (CCTV) screens in a public area.	

(Total for Question 3 = 9 marks)

5 Issues and impact

(a) A replacement cycle is the time between the purchase of a device and the purchase of its replacement.

Describe **one** impact the length of replacement cycles has on the environment.

(2)

(b) Intellectual property is protected by different methods.

Complete the table with the method of protection for **each** type of intellectual property.

(2)

Intellectual property	Method of protection
A hardware invention	
An advertising slogan	

(c) Robots use sensors to collect data about their surroundings in order to carry out actions independently.

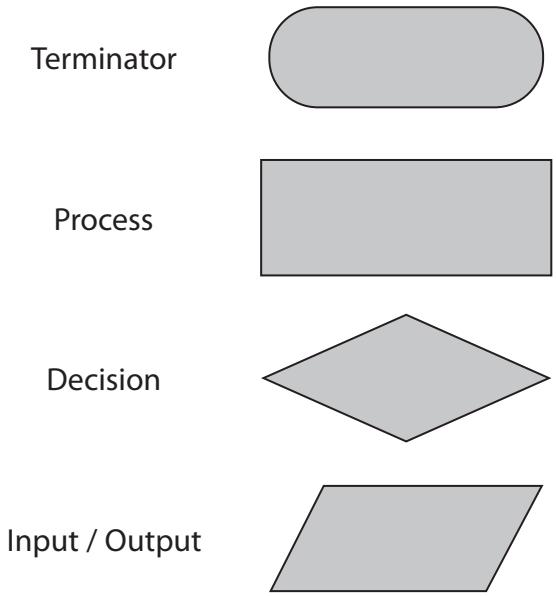
Explain **one** way that a modern car is a robot.

(2)

(d) Anti-malware protects systems from viruses.

Draw a flowchart in the box provided to show how anti-malware detects a virus in a file and what it does with the file.

Here are some flowchart symbols:



You may not need to use all the flowchart symbols.

(6)

(Total for Question 5 = 12 marks)

3 Issues and impact

(a) Information is protected legally in several ways.

(i) Identify the law that is broken when a person gains unauthorised access to a computer system.

(1)

- ☒ **A** Computer misuse
- ☒ **B** Consent
- ☒ **C** Copyright
- ☒ **D** Intellectual property

(ii) One principle of data protection legislation is that data must be processed lawfully, fairly and in a transparent manner.

Give **three other** principles of data protection legislation.

(3)

1 .....

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2 .....

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3 .....

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(b) Software licensed as open-source can be used free of charge.

Give **one other** characteristic of open-source software licensing.

(1)

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(c) Cyber security protects computer systems from harm.

(i) Explain **one** reason why an acceptable use policy keeps computer systems secure.

(2)

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(ii) Identify the type of malware that attaches itself to other files.

(1)

- ☒ **A** Keylogger
- ☒ **B** Trojan
- ☒ **C** Virus
- ☒ **D** Worm

(Total for Question 3 = 8 marks)