
2023 HSC Information and Digital Technology Marking Guidelines

Section I

Multiple-choice Answer Key

Question	Answer
1	C
2	A
3	D
4	A
5	C
6	C
7	D
8	D
9	B
10	C
11	C
12	C
13	D
14	B
15	B

Section II

Question 16 (a)

Criteria	Marks
• Shows a sound understanding of what a source code editor is	2
• Provides some relevant information	1

Sample answer:

A source code editor is a software application designed to help programmers write and edit source code for software programs. (It can help programmers write better code and reduce errors.)

Question 16 (b)

Criteria	Marks
• Outlines TWO types of documentation found inside programming code	2
• Shows some understanding of documentation	1

Sample answer:

Types of documentation found inside code can include intrinsic documentation such as clear variable names, and code comments so other people know what the code is supposed to do.

Question 17 (a)

Criteria	Marks
• Outlines TWO creative thinking techniques to generate ideas	3
• Outlines ONE creative thinking technique to generate ideas OR • Identifies TWO creative thinking techniques to generate ideas	2
• Provides some relevant information	1

Sample answer:

A team could use brainstorming for generating new ideas as it allows the generation of many ideas in a short period of time. Mind mapping can be used for organising and visually representing information to show the relationship between ideas, concepts or information when generating ideas for the technology product.

Question 17 (b)

Criteria	Marks
• Describes common blockers affecting the generation of ideas	3
• Describes a common blocker affecting the generation of ideas OR • Outlines common blockers affecting the generation of ideas	2
• Provides some relevant information	1

Sample answer:

Common blockers may affect the team in this scenario if people are too concerned about the legal ramifications and always considering boundaries to their ideas. This is the same with risks as the team may be concerned about the negative outcomes so they limit their ideas. Members of the team and naysayers can also be a blocker to creative thinking when they are being negative about ideas and not supporting creativity.

Question 18 (a)

Criteria	Marks
• Outlines THREE aspects that should be included in the privacy policy	3
• Outlines TWO aspects that should be included in the privacy policy OR • Identifies THREE aspects that should be included in the privacy policy	2
• Provides some relevant information	1

Sample answer:

The policy should include a clear explanation of what personal information is to be collected and how it is collected. It could also include an explanation of how the business will use personal information and share it with third parties. It could outline how personal information is protected from unauthorised access.

Question 18 (b)

Criteria	Marks
• Outlines the main steps for undertaking a privacy impact assessment	4
• Outlines some steps in undertaking a privacy impact assessment	3
• Identifies some features of a privacy impact assessment	2
• Provides some relevant information	1

Sample answer:

When completing a privacy impact assessment (PIA) the main steps involve planning and describing the project. Then, it is important to identify and inform all stakeholders. Another main step would be to map flow charts before completing a privacy impact analysis and compliance checklist. It is also important to consider the risks and then make recommendations.

Question 19 (a)

Criteria	Marks
• Recognises how a hazard and a risk are different and includes an example of each	3
• Shows an understanding of a hazard and/or a risk	2
• Provides some relevant information	1

Sample answer:

A hazard is a source or a situation with the potential for harm, especially of a person's health or safety. For example, electrical hazards can cause injury or fires.

A risk is the possibility that harm might occur when exposed to a hazard. A risk can be an injury caused by slips, trips and falls.

Question 19 (b)

Criteria	Marks
• Justifies strategies that could be used to reduce accidents and injuries in this workplace	4
• Describes strategies that could be used in this workplace	3
• Outlines one strategy OR identifies strategies	2
• Provides some relevant information	1

Sample answer:

To avoid or reduce back injury from carrying a box marked heavy it should be carried by two people or moved on a trolley.

Tripping over the cables could result in a range of injuries including sprained or broken ankle and further back problems. The cables should be properly placed and secured.

Answers could include:

To avoid electrocution, nothing should be inserted into a power source and a trained electrician should be involved.

Question 20 (a)

Criteria	Marks
• Outlines ONE benefit of using a compiler over an interpreter	2
• Provides some relevant information	1

Sample answer:

The compiler can produce an executable program which runs faster and reduces the risk of plagiarism of the source code. If the program is not compiled, the users will need both the interpreter and the source code.

Question 20 (b)

Criteria	Marks
• Explains how cross-cultural communication can be enhanced	4
• Describes how cross-cultural communication can be enhanced	3
• Shows some understanding of cross-cultural communication	2
• Provides some relevant information	1

Sample answer:

Team diversity can enhance cross-cultural communication to emphasise the importance of respect and sensitivity. An awareness of appropriate verbal and non-verbal communication skills is needed to prevent misunderstanding.

Culturally appropriate work practices and accommodating cross cultural policies and procedures such as different holidays and religious practices can enhance awareness and communication.

Diversity means the team have a clear understanding of client expectations, making sure all suggestions made are in line with both the product and the cultural expectations of the client.

Question 21

Criteria	Marks
• Provides an algorithm that includes all steps	5
• Provides an algorithm that addresses most of the requirements	4
• Provides an algorithm that addresses some of the requirements	3
• Outlines some features of algorithm design relevant to the problem	2
• Provides some relevant information	1

Sample answer:

BEGIN

Open laptops as input

Read serial, year from laptops

```

WHILE not EndOfFile
    IF year <> 2023 THEN
        CASEWHERE year is
            2021: Display serial, 'needing replacement'
            2022: Display serial, 'needing re-imaging'
            OTHERWISE: Display serial, 'is not purchased within 2021 to 2023.'
        ENDCASE
    ENDIF
    Read serial, year from Laptops
ENDWHILE

```

Close laptops

END

Section III

Question 22 (a)

Criteria	Marks
• Outlines the types of information in the vendor's service agreement	3
• Shows some understanding of a vendor's service agreement	2
• Provides some relevant information	1

Sample answer:

In this case the vendor's service agreement is between the online storage facility (the vendor) and the company. It covers the exchange of goods and services in return for compensation. Vendor contracts establish the business relationship and include details of each party's obligations under the contract. This includes a description of the services to be provided by the vendor and the payment terms and pricing structure.

Answers could include:

- Duration of the agreement and renewal provisions
- Service level agreements (SLAs) outlining performance metrics and expectations
- Confidentiality and data protection provisions
- Termination clauses and conditions
- Liability and indemnification provisions
- Dispute resolution mechanisms
- Reporting and communication protocols
- Compliance and regulatory requirements.

Question 22 (b)

Criteria	Marks
• Describes how employees can be supported, with relevant and appropriate examples	4
• Outlines how employees can be supported, with relevant examples	3
• Outlines how employees can be supported	2
• Provides some relevant information on a method of support	1

Sample answer:

The organisation will need to support employees through identifying their training needs and those required by the new system. This could be done through questionnaires or forms to collect information about different parts of the company that will use the new system.

Methods of training could involve group training sessions followed by one-on-one for further support for those who don't feel confident in using the system. The new online storage facility should have easy-to-use guides which could be available online and paper copies. These can have a frequently asked question section to allow employees to look back if they can't remember how to do a task.

There could also be videos of screen recordings of tasks which could be included in the online user guide.

Question 22 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides a comprehensive justification of workplace procedures that could be implemented to protect data 	8
<ul style="list-style-type: none"> Explains some workplace procedures that could be implemented to protect data 	6–7
<ul style="list-style-type: none"> Describes some workplace procedures that could be implemented to protect data 	4–5
<ul style="list-style-type: none"> Identifies some workplace procedures that could be implemented to protect data <p>OR</p> <ul style="list-style-type: none"> Outlines a workplace procedure that could be implemented to protect data 	2–3
<ul style="list-style-type: none"> Provides some relevant information 	1

Sample answer:

There are a number of workplace procedures that could be used to protect data in this scenario. The first is two-factor authentication, where the user has a password and gets a second code sent to their phone. This makes it hard for unauthorised access as the code can only be used once.

Another procedure is to have a firewall which prevents unauthorised access both to and from the storage facility.

To protect data, any data that is no longer required or is out of data should be deleted from all storage so it cannot be stolen in an attack. The company should also make sure it only collects the data it needs so it is not keeping unnecessary information.

The company could have different levels of access for different staff. This way users only have access to the information they need not to everything, to help limit unauthorised access to data and/or misuse.

Answers could include:

- Intrusion monitoring
- Password protection, including requirements for strength, complexity, change frequency and reuse
- Use of security software
- Software updates.

Section IV

Question 23

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates a comprehensive understanding of the issues associated with the proposal in the scenario • Provides a logical and cohesive, response that reflects a high level of organisation • Consistently uses relevant workplace examples and industry terminology 	13–15
<ul style="list-style-type: none"> • Demonstrates a well-developed understanding of the issues associated with the proposal in the scenario • Provides a logical response that reflects a high level of organisation • Uses some workplace examples and industry terminology 	10–12
<ul style="list-style-type: none"> • Demonstrates a sound understanding of the issues associated with the proposal in the scenario • Provides a response displaying sound organisation • Uses some workplace examples and/or industry terminology 	7–9
<ul style="list-style-type: none"> • Demonstrates some understanding of the issues associated with the proposal in the scenario • Provides a response displaying some organisation • Refers to workplace examples and/or industry terminology 	4–6
<ul style="list-style-type: none"> • Demonstrates a basic understanding of the issues in the scenario • Provides a response displaying basic organisation 	1–3

Answers could include:

- Implications in replacing the client support team can cause concern about job loss. This could have a negative impact on the team if they're worried about their jobs.
- Alternatively, it could free up the team to work on more complex issues giving them more job satisfaction, reduced costs and improved efficiency of the client support service.
- This system creates an electronic record of all the queries/questions so it would be easy to see where the most problems have been and the areas that need the most support. This will allow the team to focus on the areas of most need.
- The solution is an industry standard. Most businesses and websites now have a chatbot element to assist in bringing the company up to date with technology. It should not replace all human assistance otherwise the client may feel that they're not getting value for money with their level of support.
- It could save the client time if their problems are in the FAQ but could be frustrating if they can't get a response in a timely manner or require a response not listed in the chatbox. The chatbot solution could be positive for everyone if both support team and clients are on board, and it is used as an additional tool to support clients and improve their experience rather than replace people.

2023 HSC Information and Digital Technology Mapping Grid

Section I

Question	Marks	HSC content – focus area
1	1	Protecting data — personal identifiable information (PII) and workplace information – page 25
2	1	Safety — WHS compliance – page 31
3	1	Protecting data – compliance – page 25
4	1	Working in the industry — application requirements – page 39
5	1	Innovation — client/user support services – pages 22
6	1	Innovation — questioning mindset – page 20
7	1	Working in the industry — programming – page 40
8	1	Working in the industry — code testing and evaluation – page 41
9	1	Safety — WHS compliance – page 30
10	1	Protecting data — intellectual property – page 27
11	1	Protecting data — handling, sharing, storing PII and workplace information – page 26
12	1	Working in the industry — work practices – page 37
13	1	Working in the industry — application requirements – page 39
14	1	Working in the industry — programming – page 40
15	1	Working in the industry — programming – page 40

Section II

Question	Marks	HSC content – focus area
16 (a)	2	Working in the industry — programming – page 40
16 (b)	2	Working in the industry — code testing and evaluation – page 40
17 (a)	3	Innovation — ideas and responses – page 21
17 (b)	3	Innovation — ideas and responses – page 21
18 (a)	3	Protecting data — compliance – page 26
18 (b)	4	Protecting data — compliance – page 25
19 (a)	3	Safety — hazard identification and risk management – page 32
19 (b)	4	Safety — incidents, accidents and emergencies – page 33
20 (a)	2	Working in the industry — programming – page 40
20 (b)	4	Working in the industry — working with others – page 38
21	5	Working in the industry — programming – page 40

Section III

Question	Marks	HSC content – focus area
22 (a)	3	Innovation — client/user support services – page 22
22 (b)	4	Innovation — client/user support services – page 22
22 (c)	8	Protecting data — handling, sharing, storing PII and workplace information – page 26

Section IV

Question	Marks	HSC content – focus area
23	15	Innovation — client/user support services – page 23 Protecting data — intellectual property (IP), ethics and privacy – page 27