L-Università ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL
2025 MAIN SESSION**

SUBJECT:	**Information Technology**
PAPER NUMBER:	Controlled – Unit 1
DATE:	12th May 2023
TIME:	10:00 a.m. to 11:35 a.m.

THIS PAPER SHOULD BE RETURNED TO THE INVIGILATOR AFTER THE EXAMINATION.

Name of candidate _____

I.D. number _____

School _____

Class _____

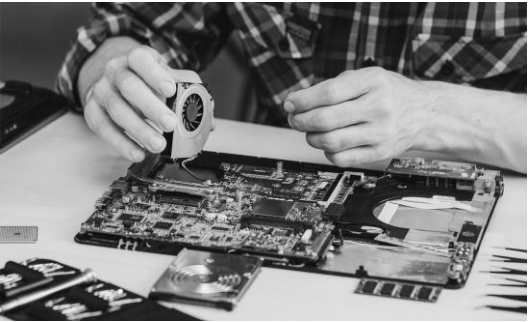Answer **ALL** questions in the space provided.

Scenario

- 'IT Solutions' is a software development company.
- The company develops IT solutions for various companies according to their business needs.

Question 1   **K-1 (4 marks)**

- While at the office, the manager of 'IT Solutions' noticed some hazards.
- For him Health and Safety is very important, and he makes sure that hazards are minimized as much as possible.

a) Identify the **TWO** hazards shown in the images below.

	Image	**Hazard**
i.	(Source: https://www.inspirecaymantraining.com/)	_____ (0.5)
ii.	(Source: https://www.shutterstock.com)	_____ (0.5)

b) List **ONE** risk for each hazard mentioned in Question 1a.

Risk from Hazard 1: _____ (0.5)

Risk from Hazard 2: _____ (0.5)

c) Outline **ONE** possible precaution which might be taken to minimise each of the risks listed in Question 1b.

Precaution for Risk 1: _____

_____

_____ (1)

Precaution for Risk 2: _____

_____

_____ (1)

Question 2   **K-3 (4 marks)**

'IT Solutions' is in the process of buying new computer systems.

a) List **FOUR** different types of computer systems, except for laptop, smartphone, and desktop computer.

Computer System 1: _____ (0.25)

Computer System 2: _____ (0.25)

Computer System 3: _____ (0.25)

Computer System 4: _____ (0.25)

b) • 'IT Solutions' offers online consultation and support to its clients.
   • It is important that when having online meetings employees do not disturb their colleagues.

From the box below, select an appropriate input and output device to be used by the employees during online meetings.

> Plotter, 3D-Scanner, Headphones, Monitor, Optical Mark Reader (OMR), Microphone, Speakers, Mouse
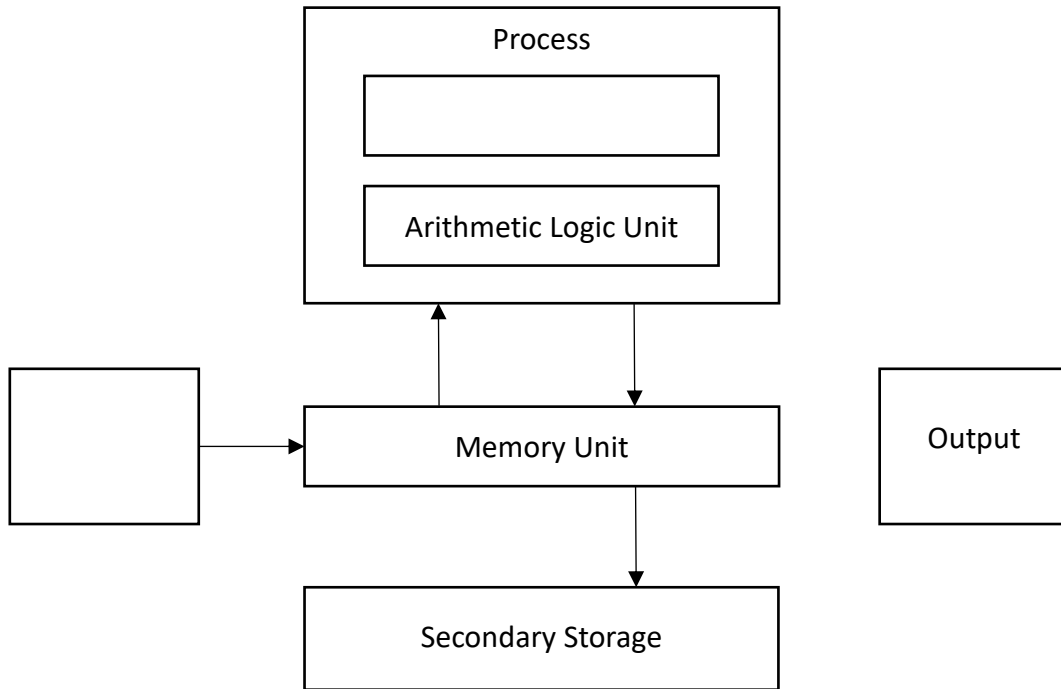
Input Device: _____ (0.5)

Output Device: _____ (0.5)

c) • The accountant of 'IT Solutions' is not very knowledgeable on how computers work.
   • She would like to know how data moves from one part of a computer system to another.

Complete the following data flow diagram by
i. filling in the empty blocks, using appropriate words, and
ii. drawing the missing arrows which show the flow of data:

```
┌─────────────────────────────────┐
│           Process               │
│   ┌─────────────────────────┐   │
│   │                         │   │
│   └─────────────────────────┘   │
│   ┌─────────────────────────┐   │
│   │  Arithmetic Logic Unit  │   │
│   └─────────────────────────┘   │
└─────────────────────────────────┘

┌──────────┐      ┌─────────────────┐      ┌──────────┐
│          │ ───► │   Memory Unit   │      │  Output  │
└──────────┘      └─────────────────┘      └──────────┘

                  ┌─────────────────┐
                  │ Secondary Storage│
                  └─────────────────┘
```

(2)

Question 3   C-2 (6 marks)

a) • 'IT Solutions' offers support to its clients 24-hours a day, 7-days a week.
   • The employees on call need to be provided with a smartphone which will be used to receive and make telephone calls and has data coverage to access emails sent by clients.
   • Since the manager is considering buying each employee one of the smartphones shown in Table 1, the smartphone needs to be at a reasonable price.

Table 1: Smartphones Specifications

	Smartphone A	Smartphone B
Memory	6 GB	12 GB
Storage	128 GB	256 GB
Processor cores	Octa core (8)	Octa core (8)
Screen size	6.43"	6.8"
Wi-Fi	Yes	Yes
Cellular	4G	5G
Cost	€300	€1,200

Justify why Smartphone A, rather than Smartphone B, should be bought in terms of speed and cost:

Justification in terms of speed: _____

_____

_____ (1)

Justification in terms of cost: _____

_____

_____ (1)

b) • Software developers have been provided with new desktop computers.
   • New keyboards and monitors need to be bought for the software developers.
   • The keyboards in Table 2 and the monitors in Table 3, are all available at the computer shop.

i. Justify why Keyboard A, rather than Keyboard B, should be bought in terms of use and connectivity.

Table 2: Keyboards Specifications

	Keyboard A	**Keyboard B**
Type	Ergonomic split keyboard	Mini keyboard
Wireless	Yes	Yes
Connectivity	Bluetooth	2.4 GHz wireless
Wrist rest	Yes	No
Cost	€90	€20

Justification in terms of use: _____

_____

_____

_____ (0.5)

Justification in terms of connectivity: _____

_____

_____

_____ (0.5)

This question continues on next page.

ii. Justify why Monitor A, rather than Monitor B, should be bought in terms of use and after-sales service.

Table 3: Monitors Specifications

	Monitor A	**Monitor B**
Type	Monitor	Portable monitor
Screen size	27"	15.6"
Connectivity	HDMI, VGA	USB
Wall mountable	Yes	No
Warranty	3 years	2 years

Justification in terms of use: _____

_____

_____

_____ (0.5)

Justification in terms of after-sales service: _____

_____

_____

_____ (0.5)

c) • 'IT Solutions' currently provides its clients with a DVD containing the software they developed for them.
   • The manager of 'IT Solutions' is considering the use of USB flash drives instead of DVDs.

Justify why USB flash drives are more appropriate than DVDs in terms of access speed and portability.

Justification in terms of access speed: _____

_____

_____

_____

_____ (1)

Justification in terms of portability: _____

_____

_____

_____
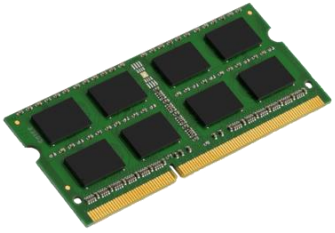
_____ (1)

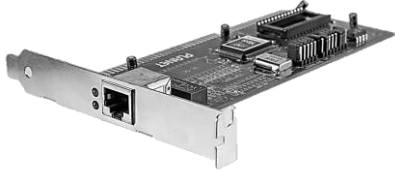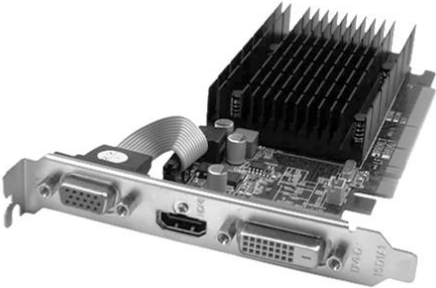**Question 4**   **K-4 (4 marks)**

The manager of 'IT Solutions' would like to upgrade the accountant's desktop computer system as it is slowing down.

a) Label the following **FOUR** internal components.

	Image	Internal Hardware Component Name
i.	 *(Source: https://www.amazon.in)*	_____ (0.25)
ii.	 *(Source: https://anafra.eu)*	_____ (0.25)

This question continues on next page.

	Image	Internal Hardware Component Name
iii.	(Source: https://www.makeuseof.com)	_____ (0.25)
iv.	(Source: https://www.dell.com)	_____ (0.25)

b) Apart from processing speed, list **TWO** other reasons for which a computer upgrade may be required.

Reason 1: _____

_____ (0.5)

Reason 2: _____

_____ (0.5)

c) Outline **TWO** implications of upgrading a computer system, except for decommissioning of hardware.

_____

_____

_____

_____

_____

_____ (2)

Question 5   **K-6 (4 marks)**

The accountant's computer system upgrade did not go very well.

a) List **TWO** issues which could have caused the hardware installation to be unsuccessful.

Issue 1: _____ (0.5)

Issue 2: _____ (0.5)

b) State **ONE** way which can be used to confirm each issue listed in Question 5a.

Way to confirm issue 1: _____

_____ (0.5)

Way to confirm issue 2: _____

_____ (0.5)

c) Outline **ONE** possible solution to solve each of the **TWO** issues listed in Question 5a.

Possible solution for issue 1: _____

_____

_____ (1)

Possible solution for issue 2: _____

_____

_____ (1)

Question 6   **K-8 (4 marks)**

After the accountant's desktop computer is upgraded, the computer technician needs to write the documentation.

a) Apart from 'Testing' and 'Signatories and Date', name **TWO** sections which form part of a Replacement/Installation/Upgrade (RIU) documentation.

Section 1: _____ (0.5)

Section 2: _____ (0.5)

This question continues on next page.

b) Outline the content of the **TWO** sections you named in Question 6a.

Content of section 1: _____

_____

_____ (0.5)

Content of section 2: _____

_____

_____ (0.5)

c) Describe the **TWO** reasons why it is important to document the Replacement/ Installation/Upgrade (RIU) of computer hardware apart from warranties of any components.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ (2)

Question 7   **K-9 (4 marks)**

After upgrading the accountant's desktop computer with new hardware and software, the technician registered each product installed.

a) Define the term 'product registration'.

_____

_____

_____

_____ (1)

b) Identify **TWO** methods used for registering products from the ones provided below:

online	via a video call	by taking an image	by post

Method 1: _____ (0.5)

Method 2: _____ (0.5)

c) One advantage of product registration is service level agreement. List **FOUR** other advantages of product registration.

Advantage 1: _____

_____ (0.5)

Advantage 2: _____

_____ (0.5)

Advantage 3: _____

_____ (0.5)

Advantage 4: _____

_____ (0.5)

Please turn the page.

Question 8 **K-10 (4 marks)**

The manager of 'IT Solutions' is very conscious about the importance of carrying out computer maintenance.

a) State **TWO** reasons why computer maintenance is important.

Reason 1: _____

_____ (0.5)

Reason 2: _____

_____ (0.5)

b) List **TWO** types of computer maintenance, apart from adaptive maintenance.

Type of maintenance 1: _____ (0.5)

Type of maintenance 2: _____ (0.5)

c) Define the **TWO** types of computer maintenance you listed in Question 8b.

Definition of type of maintenance 1: _____

_____

_____

_____ (1)

Definition of type of maintenance 2: _____

_____

_____

_____ (1)

Question 9 **C-5 (6 marks)**

- Different circumstances require different types of computer maintenance.

a) Scenario 1:

The manager of 'IT Solutions' needs more internal storage to be able to store more data on his laptop.

   i. Identify the appropriate type of computer maintenance for this scenario.

_____ (1)

ii. Justify why you chose this type of computer maintenance.

_____

_____

_____

_____ (1)

iii. Explain the approach required to carry out this computer maintenance.

_____

_____

_____

_____

_____

_____ (1)

b) Scenario 2:

The manger cannot connect the projector, which has a VGA connection, to his laptop which has only a DisplayPort and USB connections.

i. Identify the appropriate type of computer maintenance for this scenario.

_____ (1)

ii. Justify why you chose this type of computer maintenance.

_____

_____

_____

_____ (1)

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iii. Explain the approach required to carry out this computer maintenance.

_____

_____

_____

_____

_____

_____ (1)

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