



**L-Università
ta' Malta**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL
2022 SUPPLEMENTARY SESSION**

SUBJECT: **Information Technology**
 PAPER NUMBER: Synoptic – Unit 1
 DATE: 1st November 2022
 TIME: 2:30 p.m. to 4:35 p.m.

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

For examiners' use only:

Question	1	2	3	4	5	6	7	8	Total
Score									
Maximum	6	8	12	8	8	12	8	8	70

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

Scenario

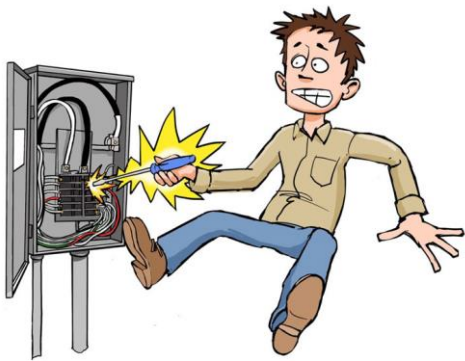

- 'Sweet Tooth' is a confectionery which has been in business since last year.
- It sells different types of cakes, chocolates, and candies.
- It is very popular with local customers.
- Two computer systems are present in the confectionery so that employees can assist customers in an efficient manner.

Question 1

K-1 (6 marks)

- The management of the confectionery is aware of possible health hazards which might be found in the confectionery due to the computers.
- So, they are constantly trying to ensure that such hazards are minimised as much as possible.

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

	Image	Hazard
i.	 <p>(Source: https://www.creativesafetysupply.com)</p>	<hr/> <p style="text-align: right;">(1)</p>
ii.	 <p>(Source: https://m.facebook.com/Clideltd)</p>	<hr/> <p style="text-align: right;">(1)</p>

b. List **ONE** risk that might arise from each hazard identified in Question 1a.

Risk from hazard (i): _____ (1)

Risk from hazard (ii): _____ (1)

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

Precaution for risk (i): _____ (1)

Precaution for risk (ii): _____ (1)

6

Question 2

K-3 (8 marks)

The two computer systems present at 'Sweet Tooth' confectionery are a laptop and a desktop computer.

a. List **FOUR** other different types of computer systems, apart from laptops and desktop computers.

Computer System 1: _____ (0.5)

Computer System 2: _____ (0.5)

Computer System 3: _____ (0.5)

Computer System 4: _____ (0.5)

b. Every day the employees of 'Sweet Tooth' confectionery need to scan products to view the necessary product information such as the item description and price.

Select **ONE** appropriate input and **ONE** appropriate output device for this scenario.

Speakers	Trackball	Puff-Suck Switch	3D-Printer
MICR	Plotter	Monitor	Barcode Reader

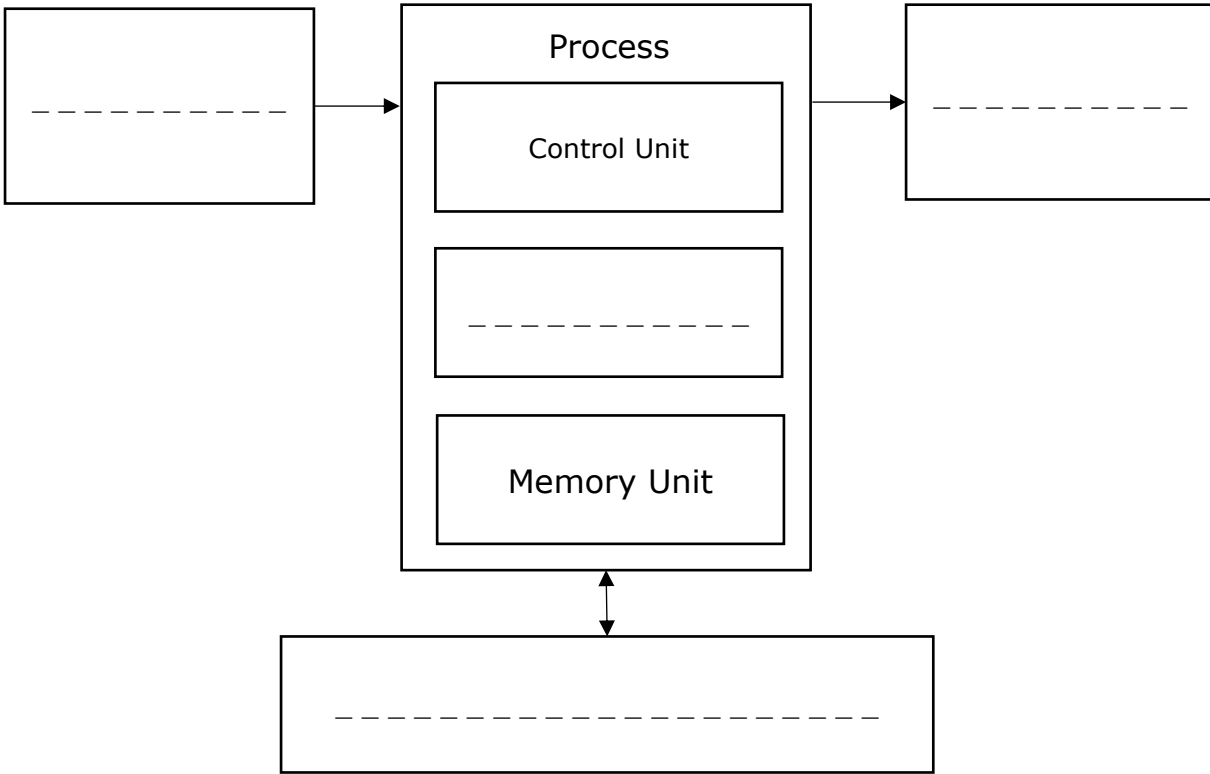
Input Device: _____ (1)

Output Device: _____ (1)

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c. Most employees are not aware of the whole data flow process. The management wants to explain how data flows inside a computer system by means of the diagram displayed hereunder.

Complete the following data flow diagram by filling in the dashed lines using appropriate words.



(4) 8

Question 3

C-2 (12 marks)

- 'Sweet Tooth' confectionery needs to buy another desktop computer.
- This will mostly be used by cashiers during the billing process.
- The management of 'Sweet Tooth' confectionery does not want to spend a lot of money.
- The desktop computers identified in Table 1 were considered.

Table 1: Desktop Computer Specifications

	Desktop Computer A	Desktop Computer B
CPU Speed	2.7 GHz	2.1 GHz
Storage	256GB	512GB
Cost	€749	€993

a. Justify why Desktop Computer A was chosen by 'Sweet Tooth' rather than Desktop Computer B, in terms of cost and speed:

Cost: _____

 _____ (2)

Speed: _____

 _____ (2)

b. Along with the desktop computer, the management of 'Sweet Tooth' confectionery also bought a keyboard and a printer for the point of sales.

i. Justify why Keyboard A was bought rather than Keyboard B in terms of use and specifications.

Table 2: Keyboard Specifications

	Keyboard A	Keyboard B
Recommended for	Home / Office	Gaming
Wireless	Yes	No
Backlit	No	Yes
Connectors	Wireless USB dongle	USB
Wrist rest	No	Yes - detachable

Use: _____

 _____ (1)

Specifications: _____

 _____ (1)

This question continues on next page.

ii. Justify why Printer A was bought rather than Printer B in terms of use and specifications.

Table 3: Printer Specifications

	Printer A	Printer B
Type	Thermal	Inkjet
Colour printing	Black	Colour
Functions	Receipt printer with auto cutter	Printer / Scanner / Copier
Paper type	Receipt	A4
Physical Dimensions (W x D x H)	140 x 199 x 146 mm	390 x 300 x 146 mm

Use: _____

_____ (1)

Specifications: _____

_____ (1)

- c. • 'Sweet Tooth' confectionery needs to backup data.
- The management is undecided whether to backup data on magnetic tapes or USB flash drives.

Justify why USB flash drives are more appropriate than magnetic tapes to backup data with respect to access speed and cost.

12



(4)

Question 4


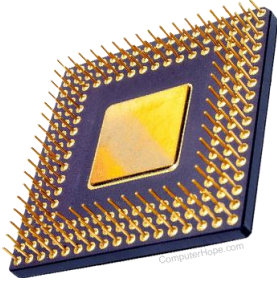
K-4 (8 marks)

The management of the confectionery decided to upgrade the desktop computer they previously owned.

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

	Image	Internal Hardware Component Name
i.	 (Source: https://www.esus-it.pt)	<hr style="width: 80%; margin: 0 auto;"/> (0.5)
ii.	 (Source: https://www.lifewire.com)	<hr style="width: 80%; margin: 0 auto;"/> (0.5)

This question continues on next page.

	Image	Internal Hardware Component Name
iii.	 <p>(Source: https://www.xstra.eu)</p>	<hr/> <p>(0.5)</p>
iv.	 <p>(Source: https://www.computerhope.com)</p>	<hr/> <p>(0.5)</p>

b. List **FOUR** reasons why a computer upgrade may be required.

Reason 1: _____
 _____ (0.5)

Reason 2: _____
 _____ (0.5)

Reason 3: _____
 _____ (0.5)

Reason 4: _____
 _____ (0.5)

c. Outline **FOUR** implications related to upgrading a computer system.

8

(4)

Question 5

K-5 (8 marks)

The management of 'Sweet Tooth' confectionary needs to access the BIOS of the desktop computers.

a. Present the **TWO** steps required to enter the BIOS/UEFI.

Step 1: _____ (1)

Step 2: _____ (1)

b. Mention **FOUR** basic features of the BIOS/UEFI.

Feature 1: _____ (0.5)

Feature 2: _____ (0.5)

Feature 3: _____ (0.5)

Feature 4: _____ (0.5)

c. Outline the content of the **FOUR** basic features mentioned in Question 5b.

Outline of Feature 1: _____

_____ (1)

Outline of Feature 2: _____

_____ (1)

This question continues on next page.

Outline of Feature 3: _____

_____ (1)

Outline of Feature 4: _____

_____ (1)

8

Question 6

C-4 (12 marks)

- The management decided to upgrade the previously owned desktop computer.
 - During the installation process the hardware problem shown below was encountered.
- a. Identify the hardware problem which has generated the following boot-up error report.

```
Processor Type: Intel(R) Celeron(R) 2957U @ 1.40GHz
Processor Speed: 1400MHz
L1/L2/L3 Cache Size: 64KBx2 / 256KBx2 / 2048KB
Memory Size: 2048 MB DDR3 / 1600 MHz / Single Channel
Channel A: XMM1 2048 MB
Channel B: XMM2 0 MB
BIOS Revision/Date: v02.20 10/07/2016

511-CPU fan not detected.
```

(Source: <https://appuals.com>)

Associated Hardware Problem: _____ (4)

- b. Describe **TWO** possible causes which might have generated the above error.

Possible cause 1: _____

_____ (2)

Possible cause 2: _____

_____ (2)

c. Explain **TWO** possible solutions which might be implemented to solve the above error.

Possible solution for cause 1: _____

_____ (2)

Possible solution for cause 2: _____

_____ (2)

12

Question 7

K-8 (8 marks)

The personnel involved in the installation of the new internal hardware components were aware that following a computer upgrade, an RIU (Replacement/Installation/Upgrade) documentation is required.

a. Name **FOUR** sections which form part of an RIU documentation, apart from 'Signatories and Date'.

- Section 1: _____ (0.5)
- Section 2: _____ (0.5)
- Section 3: _____ (0.5)
- Section 4: _____ (0.5)

This question continues on next page.

b. Outline the content of each of the **FOUR** sections of an RIU documentation named in Question 7a.

Content of section 1: _____

_____ (0.5)

Content of section 2: _____

_____ (0.5)

Content of section 3: _____

_____ (0.5)

Content of section 4: _____

_____ (0.5)

c. Describe **TWO** reasons why documentation is important after the replacement, installation, or upgrade of a hardware component.

_____ (4)

8

Question 8

K-9 (8 marks)

Product registration of new computer equipment is very important.

a. Define the term 'product registration'.

_____ (2)

b. Identify **TWO** methods which can be used to register new products.

By taking a picture	online	using a DVD	by post
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Method 1: _____ (1)

Method 2: _____ (1)

c. List **FOUR** advantages of product registration.

_____ (4)

8

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