



**L-Università  
ta' Malta**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE  
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL  
2021 MAIN SESSION**

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<b>SUBJECT:</b>	<b>Information Technology</b>
<b>PAPER NUMBER:</b>	Controlled – Unit 1
<b>DATE:</b>	21 <sup>st</sup> May 2019
<b>TIME:</b>	10:00 a.m. to 11:35 a.m.

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

**Name of candidate** \_\_\_\_\_

**I.D. number** \_\_\_\_\_

**School** \_\_\_\_\_

**Class** \_\_\_\_\_

**Notes to Students:**

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

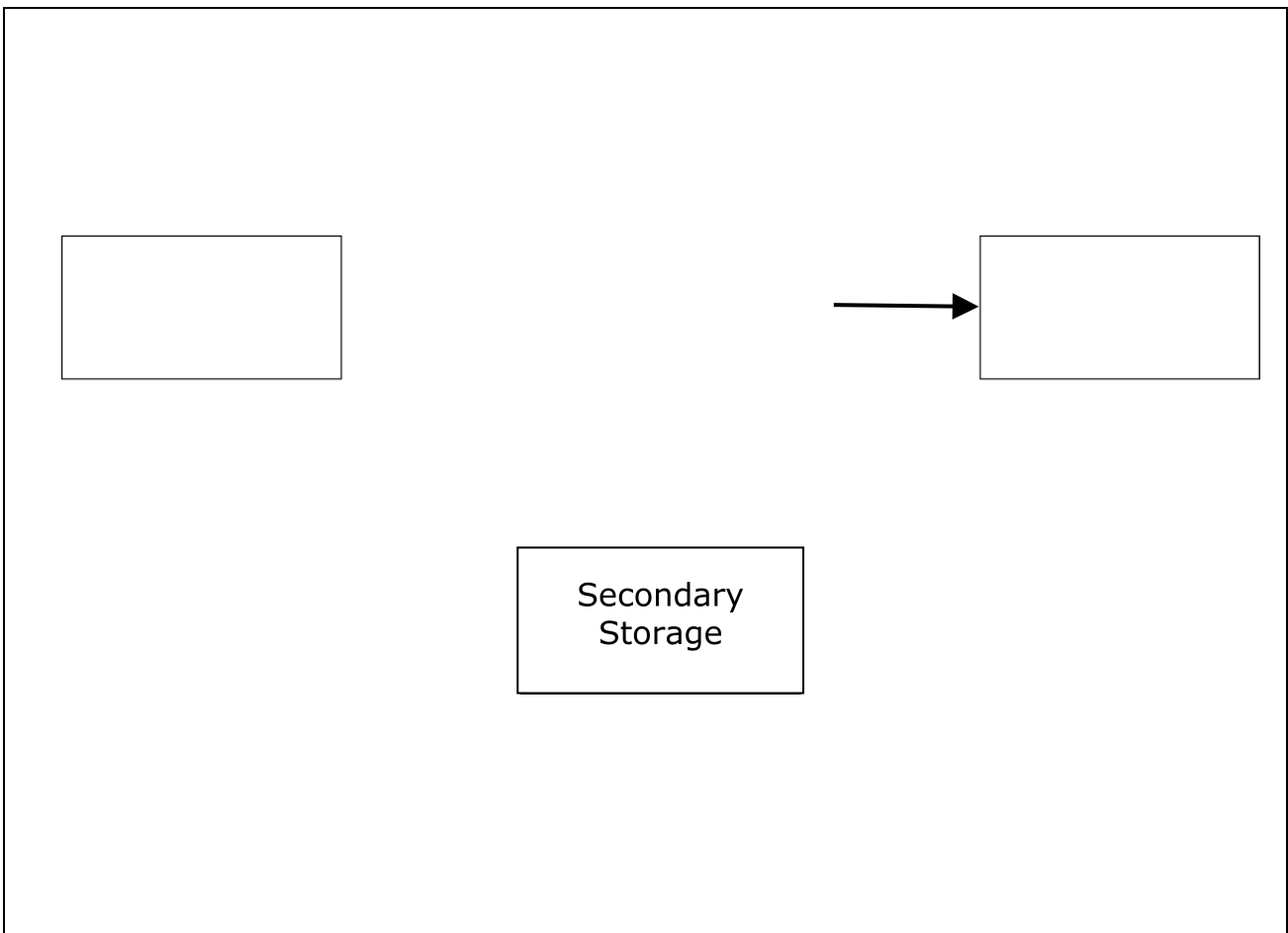
**Scenario**

HomeDecor is a small company dedicated to interior design. Ms Grima, the owner, has hired you to help her, and her employees, better understand and use computers in their day to day work.

**Question 1**

**K3 (4 marks)**

The owner has asked you to start by helping her understand what a computer system is. Complete the following data flow diagram by adding missing boxes, labelling the boxes accordingly and including the necessary arrows, so that it can be presented to Ms Grima.



**Question 2**

**K1 (4 marks)**

The HomeDecor owner has discovered that there are many types of computer systems, but is not sure what the difference between them is. Help her understand by answering the question below.

List the following computer systems in order starting from the smallest to the largest system.

(4)

laptop, tablet, gaming rig, desktop, wearable

Smallest  ↓  Largest	

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**Question 3**

**K5 (4 marks)**

a) The HomeDecor owner would like to buy some new peripheral devices for the office. Help her select the correct device for each situation. Each device can only be used once.

optical character reader, 3D scanner, monitor, plotter, hard disk, flash drive, braille keyboard, eye tracking system, mouse

i. A device that would allow her visually impaired employee to input data in the computer.  
\_\_\_\_\_ (0.5)

ii. A device that would allow the printing of all their building plans.  
\_\_\_\_\_ (0.5)

iii. A device that would allow the storage of many documents and house photos on the office computers.  
\_\_\_\_\_ (0.5)

iv. A portable device that would allow her employees to store house photos and show them to clients when they visit them outside the office.  
\_\_\_\_\_ (0.5)

b) For each scenario, select the correct peripheral device from the list below.

optical character reader, 3D scanner, 3D printer, monitor, plotter, hard disk, flash drive, braille keyboard, eye tracking system, mouse

	<b>Scenario</b>	<b>Device</b>	
i.	A basic input device used to move a cursor on the screen.		(0.5)
ii.	A device used to scan documents into editable files.		(0.5)
iii.	A device used to print 3D models.		(0.5)
iv.	A device used to control the computer system using eye movement.		(0.5)

**Question 4**

**K6 (4 marks)**

The HomeDecor offices will need to have access to the Internet. However, employees cannot understand what is required for a network setup. Help them understand by answering the following questions.

a) One of the most basic requirements for a network setup is data transmission.

i. Outline **ONE** type of wired data transmission media:

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(0.5)

ii. Outline **ONE** type of wireless data transmission media:

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(0.5)

b) The following **THREE** terms are also important in a network setup. Outline the function of each one.

i. NIC

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(1)

ii. Protocol

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(1)

iii. Switch

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(1)

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**Question 5**

**K9 (4 marks)**

Now that the network at HomeDecor has been set up, it is important to consider its security. Help the employees at HomeDecor understand the role of firewalls in safeguarding computer networks.

a) Outline the difference between blacklisting and whitelisting used in firewalls.

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(1)

b) Outline **FOUR** additional roles of a firewall **not** mentioned in question 5a.

- i. \_\_\_\_\_  
\_\_\_\_\_ (0.75)
- ii. \_\_\_\_\_  
\_\_\_\_\_ (0.75)
- iii. \_\_\_\_\_  
\_\_\_\_\_ (0.75)
- iv. \_\_\_\_\_  
\_\_\_\_\_ (0.75)

**Question 6**

**C4 (6 marks)**

There are many employees at HomeDecor, but not all of them should have the same level of access to the system. Ms Grima doesn't know how to solve this issue. Help her by answering the questions below.

a) Distinguish between Standard and Guest accounts by providing **ONE** similarity and **ONE** difference.

Similarity: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1.5)

Difference: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1.5)

b) Mention **ONE** other type of user group that can be created.

\_\_\_\_\_ (0.5)

At HomeDecor it is important that employees working in the same building are able to share documents and photos with each other.

c) Distinguish between a file with 'Read/Write' permission and one with 'Full Control'?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

d) Name **TWO** other types of file permissions available.

File permission 1: \_\_\_\_\_ (0.25)

File permission 2: \_\_\_\_\_ (0.25)

***Please turn the page.***

**Question 7****C1 (6 marks)**

Ms Grima needs to purchase new devices for her employees to help them do their job better. Her employees can be divided into two categories, each of which has specific needs:

- Designers: Mostly work from the office, do a lot of digital drawing and work with 3D images.
- Sales persons: Travel a lot to meet with clients at different locations, take a lot of high-resolution photos of houses and send emails.

Look at the systems listed in Table 1 below and answer the questions.

Table 1: Computer Systems Specifications

	<b>System 1</b>	<b>System 2</b>	<b>System 3</b>
<b>Model</b>	GL73 8RD-043 Laptop	Galaxy Shift S4 Tablet	Outer Pro Laptop/Tablet
<b>Processor Type and Speed</b>	Intel Core i7 2.2GHz	Qualcomm Snapdragon 835 2.35GHz	Intel Core i5 2.6GHz
<b>Memory</b>	8GB	4GB	8GB
<b>Hard Drive Size</b>	HDD – 1TB SSD – 128GB	64GB	SSD – 256GB
<b>Screen Size</b>	17.3"	10.5"	12.3"
<b>Max Resolution</b>	1920x1080	1600x2560	2739x1824
<b>Graphics</b>	GeForce GTX1050Ti	Integrated Advanced Graphics	Intel HD Graphics 620
<b>Colour</b>	Black	Black	Silver
<b>Card Reader</b>	Yes	No	Yes
<b>Bluetooth</b>	Yes	Yes	Yes
<b>Wifi</b>	Yes	Yes	Yes
<b>Ports</b>	1 x Mini Display port 1 x HDMI 3 x USB 3.1 1 x Headset Jack	1x USB 3.1	1 x Headset Jack 1 x Mini Display Port 1 x USB 3.0 1 x SimCard slot
<b>Camera</b>	1MP	Rear: 13MP Front 8MP	1MP
<b>Weight</b>	2.7Kg	482g	812g
<b>Battery Life</b>	2 hours on battery only	16 hours	13.5 hours
<b>Price</b>	€1099.00	€599.00	€1639.00



a) Which system would you pick for the Designers?

\_\_\_\_\_ (0.5)

b) Provide **TWO** reasons to justify your answer.

Reason 1: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Reason 2: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

c) Which system would you pick for the Sales Persons?

\_\_\_\_\_ (0.5)

d) Provide **THREE** reasons to justify your answer.

Reason 1: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Reason 2: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Reason 3: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

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**Question 8**

**C5 (6 marks)**

Security is a very big concern for HomeDecor. Ms. Grima would like you to explain to her and her staff what sort of threats they could encounter and how they can protect themselves from them.

a) Explain how **TWO** network security threats can be detrimental to a network.

Threat 1: \_\_\_\_\_

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(1.5)

Threat 2: \_\_\_\_\_

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(1.5)

b) Explain how **TWO** network protection systems, apart from a firewall, can be used to keep the network safe from threats.

Protection system 1: \_\_\_\_\_

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(1.5)

Protection system 2: \_\_\_\_\_

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(1.5)

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