



**L-Università
ta' Malta**

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL
2022 MAIN SESSION**

SUBJECT:	Information Technology
PAPER NUMBER:	Controlled – Unit 3
DATE:	25 th April 2022
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

- A local bank has recently employed some student workers.
- The director of the bank would like to assess the knowledge of these employees with respect to networking.

Question 1

K-1 (4 marks)

a) Define the term 'network'.

(1)

b) State **TWO** purposes of a network.

Purpose 1: _____
_____ (0.5)

Purpose 2: _____
_____ (0.5)

c) Outline **ONE** use of networks in banks and **ONE** use of networks at home.

(2)

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

- a) Name **TWO** different types of networks.

Network 1: _____ (0.5)

Network 2: _____ (0.5)

- b) Outline each type of network named in Question 2 (a) based on their geographical area.

Outline of Network 1: _____

_____ (0.5)

Outline of Network 2: _____

_____ (0.5)

- c) The director of the local bank noticed that some newly recruited student workers are not aware of the differences between client-server and peer-to-peer network architectures.

Differentiate between client-server and peer-to-peer architectures with respect to cost and security.

- i. Differentiation with respect to Cost: _____

_____ (1)

- ii. Differentiation with respect to Security: _____

_____ (1)

Please turn the page.

Question 3**K-6 (4 marks)**

- The local bank has an architectural plan illustrating the bank's network system.
- CISCO symbols have been used to mark the networking devices present within the bank.

a) Identify each network device symbol shown in the table below.

Table 1: CISCO Devices Symbols

	Symbol	Name
Device 1	 (Source: https://conceptdraw.com)	_____
Device 2	 (Source: https://vecta.io/symbols/)	_____
Device 3	 (Source: https://www.conceptdraw.com)	_____
Device 4	 (Source: https://vecta.io)	_____

(1)

b) State the use of Device 1 and Device 2 identified in Question 3 (a).

Use of Device 1: _____
 _____ (0.5)

Use of Device 2: _____
 _____ (0.5)

- c) One of the networking devices present at the local bank is a 'TP-Link Access Point'.

The following screenshot displays some of the specifications for this Access Point:

- **AC1200 Dual-Band Wi-Fi** – 867 Mbps at 5 GHz and 300 Mbps at 2.4 GHz band.
- **Flexible Deployment** – Supports Passive PoE to carry electrical power and data simultaneously.
- **Multiple Modes** – Supports Access Point, Range Extender, Multi-SSID, and Client modes to meet any network needs.
- **MU-MIMO Technology** – Simultaneously transfers data to multiple devices for 2× faster performance.
- **Boosted Coverage** – Four fixed antennas equipped with Beamforming technology extend and concentrate the Wi-Fi signals.
- **Captive Portal** – Offers a designed portal page for heightened security and marketing.

Figure 1: Specifications for an Access Point
(Source: tp-link.com/us/home-networking/access-point/tl-wa1201/)

Outline the following specifications based on Figure 1.

- i. Power Source: _____

 _____ (1)
- ii. Connectivity Medium: _____

 _____ (1)

Question 4

K-8 (4 marks)

- Bank employees have different access rights and permissions to resources.
- For this reason, different local user accounts are available for each employee.

- a) List **TWO** different local user accounts.

Local User Account 1: _____ (0.5)

Local User Account 2: _____ (0.5)

This question continues on next page.

- b) Describe the purpose of the **TWO** local user accounts listed in Question 4 (a).

Purpose of Local User Account 1: _____

_____ (0.5)

Purpose of Local User Account 2: _____

_____ (0.5)

- c) Outline **TWO** advantages and **TWO** disadvantages of online user accounts.

_____ (2)

Question 5**K-10 (4 marks)**

- It is important for the bank management to ensure that the newly recruited employees are aware of the possible threats related to security.
- These employees should also be aware of the possible protection mechanisms which might be utilised to reduce or mitigate such threats.

a) List **FOUR** network security threats.

Network Security Threat 1: _____ (0.25)

Network Security Threat 2: _____ (0.25)

Network Security Threat 3: _____ (0.25)

Network Security Threat 4: _____ (0.25)

b) State **FOUR** protection measures for a networked device.

Protection Measure 1: _____
_____ (0.25)

Protection Measure 2: _____
_____ (0.25)

Protection Measure 3: _____
_____ (0.25)

Protection Measure 4: _____
_____ (0.25)

This question continues on next page.

- c) Three bank departments make use of a wired network. The managers of the bank would like to change the setup to a wireless one.

Outline **FOUR** protection measures for a wireless network.

[illegible]