L-Università ta' Malta

Specimen Paper
SEC 39 Information Technology

2027

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Specimen Assessment: Sample Controlled Paper

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

L-Università ta' Malta

SECONDARY EDUCATION CERTIFICATE LEVEL
SAMPLE CONTROLLED PAPER

SUBJECT:	**Information Technology**
PAPER:	**Level 1 – 2 – 3**
DATE:	
TIME:	**2 Hours**

Directions to Candidates

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

This paper carries a total of 100 marks.

THIS PAPER SHOULD BE RETURNED TO THE INVIGILATOR AFTER THE EXAMINATION

For examiners' use only:

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Score																					
Maximum	5	6	6	6	4	6	2	4	4	3	5	4	8	8	4	5	4	4	6	6	100

1. Categorise the following safety signs, by writing 'X' in the category they belong to.

Safety Signs		Categories			
		Prohibition	Mandatory Action	Warning	Evacuation Route
a.						(1)
b.						(1)
c.						(1)
d.						(1)
e.						(1)

(Source: https://www.iso.org)

(Total: 5 marks)

2. • Peter is the owner of PC Repairs where clients go to get their computers fixed.

   • Within the workshop where technicians fix computers, Peter made sure to stick the No Running and the First Aid safety signs.

   a. Explain the purpose of the No Running safety sign in this scenario.

   _____

   _____

   _____

   _____

   _____ (3)

b. Explain the purpose of the First Aid safety sign in this scenario.

_____

_____

_____

_____

_____ (3)

(Total: 6 marks)

3.
- Peter needs to install more RAM modules in a client's desktop computer.
- He is not at his workshop and does not have the necessary tools with him.
- Peter still decides to open up the computer case using a knife and install the RAM.

List **THREE** consequences that can occur given that Peter is not taking the necessary precautions.

Consequence 1: _____ (2)

Consequence 2: _____ (2)

Consequence 3: _____ (2)

(Total: 6 marks)

4. For the scenario presented in Question 3 above, determine **THREE** costs involved if Peter does not observe good practices when installing the RAM.

Cost 1: _____

_____ (2)

Cost 2: _____

_____ (2)

Cost 3: _____

_____ (2)

(Total: 6 marks)

5.   List **FOUR** different types of computer systems, apart from desktop computer.

Computer system 1: _____ (1)

Computer system 2: _____ (1)

Computer system 3: _____ (1)

Computer system 4: _____ (1)

(Total: 4 marks)

6.   • Monica wants to replace the old Hard Disk Drive of her computer with a new Solid State Drive (SSD).

   • Since she will be installing a new drive, she would like to upgrade the operating system from Windows 10 to Windows 11.

   • Mary also needs to get rid of the Hard Disk Drive but not of the personal data stored in it.

Outline **THREE** implications of upgrading Mary's computer system.

Implication 1: _____

_____ (2)

Implication 2: _____

_____ (2)

Implication 3: _____

_____ (2)

(Total: 6 marks)

7.   State **TWO** purposes of POST.

Purpose 1: _____ (1)

Purpose 2: _____ (1)

(Total: 2 marks)

8. • Ms Maria is a science teacher who holds afterschool Science Club sessions.
    • She decided to set up a social media account.

    Social media is a multimedia system. Describe social media in relation to the above scenario.

    _____

    _____

    _____

    _____

    (Total: 4 marks)

9. Ms Maria will be uploading images on the social media account of the Science Club.

    State **FOUR** main characteristics of image formats.

    Characteristic 1: _____ (1)

    Characteristic 2: _____ (1)

    Characteristic 3: _____ (1)

    Characteristic 4: _____ (1)

    (Total: 4 marks)

10. Storyboards should be created when developing animations.

    State **TWO** purposes of using storyboard for animations.

    Purpose 1: _____ (1)

    Purpose 2: _____ (1)

    Purpose 3: _____ (1)

    (Total: 3 marks)

11. Websites are a common example of multimedia systems.

    List **FIVE** different types of websites apart from social media, e-commerce and job boards.

    Type of website 1: _____ (1)

    Type of website 2: _____ (1)

    Type of website 3: _____ (1)

    Type of website 4: _____ (1)

    Type of website 5: _____ (1)

    (Total: 5 marks)

12. Outline the purpose of the following types of websites.

    a. E-commerce: _____

        _____ (2)

    b. Job boards: _____

        _____ (2)

    (Total: 4 marks)

13. Explain **TWO** important aspects to consider when designing websites.

    Aspect 1: _____

    _____

    _____

    _____

    _____ (4)

    Aspect 2: _____

    _____

    _____

    _____

    _____ (4)

    (Total: 8 marks)

14. Following is a code snippet of an HTML document.

```html
<html>
<head>
    <title>Cars for Sale</title>
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <header>
        <h1>Welcome to the World of Cars</h1>
        <nav>
            <ul>
                <li><a href="#about">About our Shop</a></li>
                <li><a href="#models">Models for Sale</a></li>
                <li><a href="#contact">Contact Us</a></li>
            </ul>
        </nav>
    </header>

    <div id="about">
        <h2>Cars on Offer</h2>
        <p>Explore the world of automobiles on offer.</p>
    </div>

    <div id="models">
        <h2>Popular Brands</h2>
        <ul>
            <li>Toyota</li>
            <li>Renault</li>
        </ul>
    </div>

    <footer>
        <p>&copy; 2024 Cars Inc. All rights reserved.</p>
    </footer>
</body>
</html>
```

Outline the use of the following HTML tags taking into consideration the above code snippet. An example has been provided.

a. <title>: This is used to define the title of the HTML document which appears in the web browser's tab. In this case the title "Cars for Sale" will be displayed.

b. <link>: _____

_____

_____ (2)

c. <h1>: _____

_____

_____ (2)

d. <a>: _____

_____

_____ (2)

e. <div>: _____

_____

_____ (2)

(Total: 8 marks)

15. Name **FOUR** different types of networks.

Type of network 1: _____ (1)

Type of network 2: _____ (1)

Type of network 3: _____ (1)

Type of network 4: _____ (1)

(Total: 4 marks)

16. Name **FIVE** different network protocols.

Network protocol 1: _____ (1)

Network protocol 2: _____ (1)

Network protocol 3: _____ (1)

Network protocol 4: _____ (1)

Network protocol 5: _____ (1)

(Total: 5 marks)

17. Classify the following network devices as end devices or intermediate devices, by writing 'X' in the correct category.

Network Devices		Categories		
		End Device	Intermediate Device	
a.				(1)
b.				(1)
c.				(1)
d.				(1)

(Source: https://www.cisco.com)

(Total: 4 marks)

18. Outline the use of static and dynamic IP addressing, including an example where each may be used.

Use of static IP addressing: _____

_____

_____ (2)

Use of dynamic IP addressing: _____

_____

_____ (2)

(Total: 4 marks)

19. One of the desktop computers is giving the following output when using the ipconfig/all command.

```
Ethernet adapter Ethernet:
    Description . . . . . . . . . . . : Realtek Gaming 2.5GbE Family Controller
    Physical Address. . . . . . . . . : D8-5E-D3-0E-DB-CD
    IPv4 Address. . . . . . . . . . . : 192.168.8.1(Preferred)
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
```

Explain **TWO** differences between MAC addressing and IPv4 addressing.

Difference 1: _____

_____

_____

_____

_____ (3)

Difference 2: _____

_____

_____

_____

_____ (3)

(Total: 6 marks)

20. • An office has a desktop computer that will be used by different people.

 • The administrator was asked to set up a number of folders with different sharing permissions.

 a. Situation A

 • David, one of the users, wants a folder called 'Documents'.

 • He will be using this folder to store his own personal files in it.

 • The administrator set up the 'Documents' folder for David with the below permissions (Figure 1).
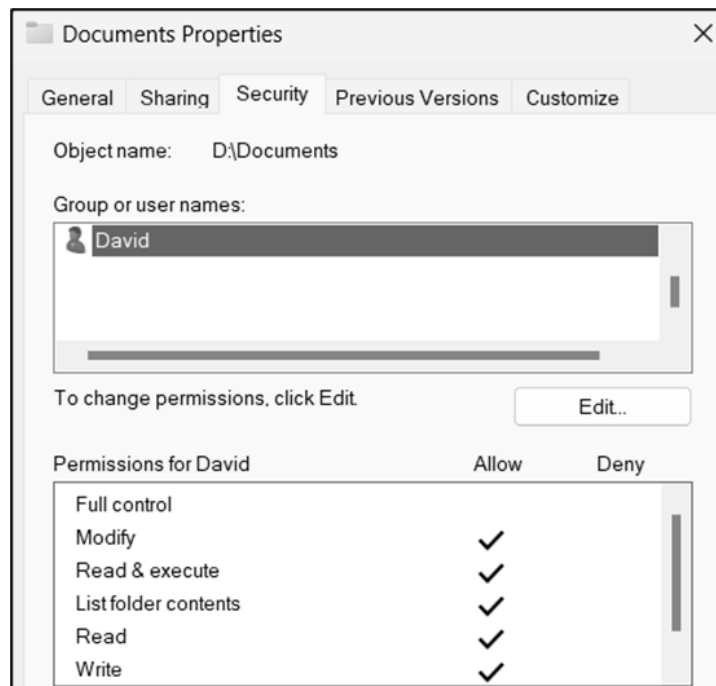

Figure 1: 'Documents' folder sharing permissions for David

 i. Determine whether the sharing permissions for David are appropriate or not.

 ☐ Appropriate   ☐ Not appropriate   (1)

 ii. Explain why the sharing permissions are appropriate or not for David's needs.

 _____

 _____

 _____

 _____ (2)

b. Situation B

- David still requires the Document folder to store his own personal files as described in Situation A (Question 20a).

- The sharing permissions for David are shown in Figure 1 (Question 20a).

- The administrator created a group called 'Users'.

- This group consists of all the users that are going to use the same desktop computer as David.

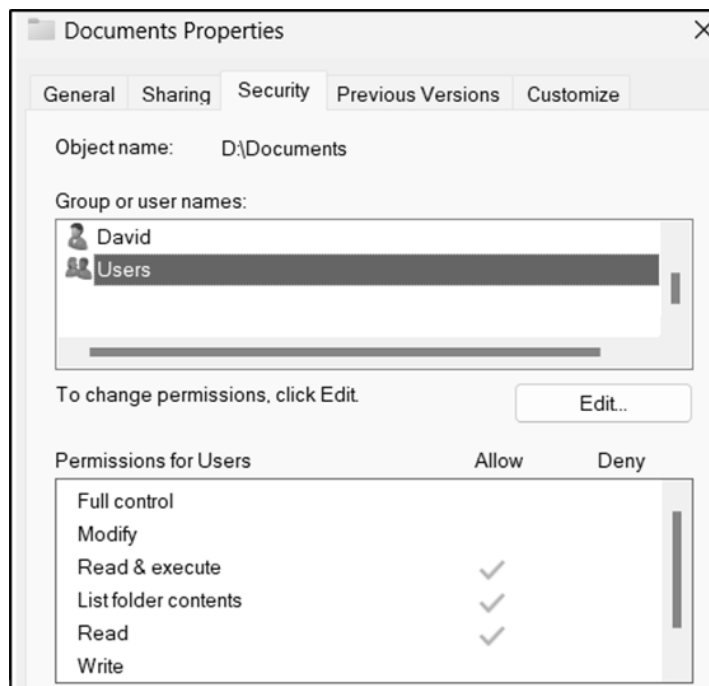- The administrator added the below permissions to the 'Documents' folder for 'Users' (Figure 2).

Figure 2: 'Documents' folder sharing permissions for Users

i. Determine whether the sharing permissions for Users are appropriate or not, when considering David's requirements.

☐ Appropriate   ☐ Not appropriate   (1)

ii. Explain why the sharing permissions are appropriate or not for Users' needs, when considering David's requirements.

_____

_____

_____

_____ (2)

(Total: 6 marks)

Specimen Assessment: Sample Marking Scheme for Controlled Paper

L-Università ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

SECONDARY EDUCATION CERTIFICATE LEVEL
SAMPLE MARKING SCHEME FOR CONTROLLED PAPER

SUBJECT: **Information Technology**

PAPER: **Level 1 – 2 – 3**

DATE:

TIME: **2 Hours**

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer

					Prohibition	Mandatory Action	Warning	Evacuation Route
			a.				X	
1	5	1 mark for each safety sign correctly categorised	b.			X		
			c.		X			
			d.					X
			e.		X			

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
2	6	1 mark for each purpose identified without any explanation	Reminder that running is not allowed. Accept any other valid answers.
		2 marks for each purpose identified and just outlined	The No Running safety sign reminds technicians about the risks associated with running in the workshop while urging them not to run. Accept any other valid answers.
		3 marks for each purpose properly explained	In this scenario the No Running safety sign serves as a visual reminder for technicians about the risks associated with running such as tripping and collisions. This urges technicians to adhere to safety protocols by prohibiting running within the workshop. Accept any other valid answers.
3	6	2 marks for each correct consequence listed	• Electrostatic discharge (ESD) • Human injury • Equipment damage Accept any other valid answers in terms of the scenario.
4	6	1 mark for each cost determined with no reference to the given scenario	Any **THREE** from the following, or other valid ones in terms of the scenario: • Cost of damaged equipment • Delivery/postage costs • Hourly rate of repair • Medical costs
		2 marks for each cost determined including adequate reference to the given scenario	Peter might need to buy new RAM modules given that the ones he had could have been damaged by ESD. Accept any other valid answers.

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
5	4	1 mark for each correct type of computer system listed	Any **FOUR** from the following, or other valid ones: • Server • Laptop • Tablet • Gaming console • Smartphone • Embedded device • Wearable Desktop computer is not to be accepted as a valid answer.
6	6	1 mark for each implication stated but not outlined	• Software compatibility problems • Decommissioning of hardware • Migration of data Accept any other valid answers in terms of the scenario.
		2 marks for each implication stated and properly outlined	Software compatibility since software/drivers which worked on Windows 10 might need to be updated to work on Windows 11. Accept any other valid answers in terms of the scenario.
7	2	1 mark for each purpose stated	Any **TWO** from the following, or other valid ones: • determining the computer status • indicating system issues • troubleshooting boot-up errors • checking that all hardware is functional

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
8	4	2 marks for an outline which does not relate to the given scenario	Social media is a website or application through which one can share information, photos and videos with others. Accept any other valid answers.
		4 marks for a proper description relating to the given scenario	Social media is a website or application through which one can create and share information, photos, videos and other content with the audience. In this case, Ms Maria can easily share content related to the Science Club while reaching many people including parents and students. Accept any other valid answers.
9	4	1 mark for each characteristic stated	Any **FOUR** from the following, or other valid ones: • Compression • Bit depth / Colour depth • Image size • Resolution • Vector / Raster
10	3	1 mark for each purpose stated	Any **THREE** from the following, or other valid ones: • plan the animation • be organised • save time from creating multiple versions • help to identify issues/missing details

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
11	5	1 mark for each type of website listed	Any **FIVE** from the following, or other valid ones: • Educational • Informational • Blog • Portfolio • News • Governmental services • Entertainment Social media, e-commerce, and job boards are not to be accepted as valid answers.
12	4	1 mark for each purpose stated but not outlined	a. E-commerce: to buy and sell products b. Job boards: to apply for a job Accept any other valid answers.
		2 marks for each purpose properly outlined	a. E-commerce: It is used to buy and sell products, goods, or services online over the Internet. b. Job boards: It is used to list job vacancies and allow job seekers to search and apply for jobs online over the Internet. Accept any other valid answers.

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
13	8	1 mark for each aspect stated but not explained	Any **TWO** from the following, or other valid ones: • User friendliness • Accessibility • Fast loading times • Well formatted content • Compatibility • Responsiveness
		2 marks for each aspect stated and properly outlined	Websites should be user friendly making it is easy for everyone to look for the required information. Accept any other valid answers.
		4 marks for each aspect properly explained	Websites should be user friendly so that they are intuitive and easy for everyone to navigate through, making it easier for visitors to look for the required information while encouraging them to spend more time on the website. Accept any other valid answers.

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
14	8	1 mark for each HTML tag outlined but not related to the given code snippet	b. \<link>: defines a relationship between files c. \<h1>: defines a heading (title) d. \<a>: defines a hyperlink e. \<div>: defines a division/section in an HTML document Accept any other valid answers.
		2 marks for each HTML tag outlined in relation to the given code snippet	b. \<link>: It is used to link the HTML document with the external CSS file (styles.css). c. \<h1>: It is used to define the most important heading on the webpage being "Welcome to the World of Cars". d. \<a>: It is used to set the hyperlinks in the navigation menu, whereby each hyperlink links to a different element within the webpage. e. \<div>: It is used to divide the webpage into sections allowing users to move to different sections on the page when clicking the links in the navigation menu. Accept any other valid answers.
15	4	1 mark for each correct type of network named	Any **FOUR** from the following, or other valid ones: • PAN • BAN • HAN • LAN • MAN • WAN

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
16	5	1 mark for each correct network protocol named	Any **FIVE** from the following, or other valid ones: • HTTPS • FTPS • POP3S • SMTPS • HTTP • FTP • POP3 • SMTP

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer		
				End Device	Intermediate Device
17	4	1 mark for each correctly classified device	a.		X
			b.	X	
			c.	X	
			d.		X

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
18	4	1 mark for each use stated without including any example	Use of static IP addressing: Used to give a fixed IP to a device. Accept any other valid answers.
		2 marks for each use outlined including an example	Use of static IP addressing: Such addressing is used to give a fixed IP to devices such as printers so that users always know the IP address of the printer. Accept any other valid answers.

Question No.	Total Marks	Allocation of Marks	Example of Expected Answer
19	6	1 mark for each difference identified without any explanation	The length / number of bits of the addresses is different. Accept any other valid answers.
		2 marks for each difference identified and just outlined	The length of a MAC Address is longer than the IP Address Accept any other valid answers.
		3 marks for each difference properly explained	A MAC Address is longer than an IPv4 Address since a MAC Address is 48 bits long whilst the length of an IPv4 Address is 32 bits. Accept any other valid answers.
20	6	1 mark for determining the appropriateness of the permissions for each situation	Situation A: Appropriate Situation B: Not Appropriate
		2 marks for explaining why the permissions for each situation are appropriate or not	Situation A: Sharing permissions are appropriately set on the 'Documents' folder given that David will be storing his own personal files. Therefore, he should be allowed to read, write and modify the contents of the folder. Situation B: The assigned sharing permissions are not appropriate since the folder is intended to be used by David to store his personal files. Hence giving other users Read permissions, will enable them to read David's personal files stored in the 'Documents' folder. Accept any other valid answers.