



L-Università
ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL
2024 SUPPLEMENTARY SESSION**

SUBJECT: **Information Technology**
PAPER NUMBER: Synoptic – Unit 2
DATE: 4th November 2024
TIME: 5:30 p.m. to 7:35 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 | 8 | 8 | 12 | 70 |

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

Scenario

- 'Chorus' is a local choir, directed by Carmen.
- Carmen would like to promote the choir's musical events through advertisements and distinctive designs.

Question 1

K-1 (6 marks)

Different types of media can be used to promote 'Chorus'.

a. List **TWO** different types of media, apart from images and audio.

Media 1: _____ (1)

Media 2: _____ (1)

b. Relate the following types of media with **ONE** of the human senses:

Images: _____ (1)

Audio: _____ (1)

c. Identify **ONE** hardware device required when developing or using the following media, apart from keyboard and mouse. A different hardware device should be identified for each medium.

Hardware required for Images: _____ (1)

Hardware required for Audio: _____ (1)

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| |
| 6 |

Question 2

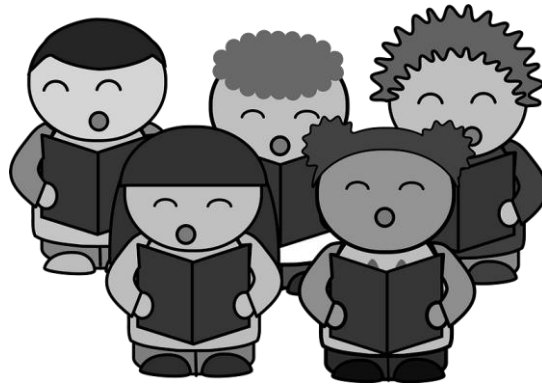
K-3 (8 marks)

- The members of the choir thought that it would be a good idea to have a logo.
- Carmen is currently trying out different image effects on the logo selected by the choir members.

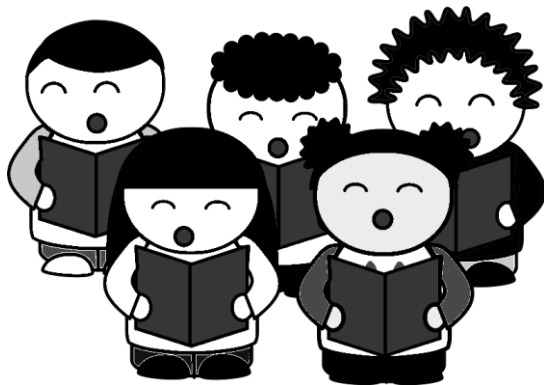
a. Different image effects were applied to the original image. Match the image effects listed in the box below with the image representing the effect.

| | |
|--------------|----------|
| Transparency | Contrast |
|--------------|----------|

Original image



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



Effect 1: _____ (1)



Effect 2: _____ (1)

b. Describe the following image effects.

i. Brightness: _____

_____ (1)

ii. Contrast: _____

_____ (1)

This question continues on next page.

c. Describe the output obtained when applying minimum and maximum intensities to the brightness image effect.

Brightness minimum intensity: _____

_____ (2)

Brightness maximum intensity: _____

_____ (2)

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Question 3

C-2 (12 marks)

- Carmen needs to carefully choose the image file format for the logo.
- She wants this logo to be included in all promotional material including banners, leaflets and posters.
- Moreover, the logo will resemble a clipart and therefore it will have a limited number of colour shades.
- She is still not sure which is the best image file format to use.

a. Select the most appropriate image file format, from SVG and WebP, for the choir’s logo.

Most appropriate image file format: _____ (4)

b. Justify the image file format selected in Question 3a based on vector/raster and colour depth.

Justification based on vector/raster:

_____ (2)

b. Relate the following **FOUR** audio file types to the statement which appropriately states their characteristics.

| | | | |
|------|------|-----|------|
| ALAC | LPCM | MP3 | FLAC |
|------|------|-----|------|

i. An uncompressed audio file type. _____ (0.5)

ii. This is a lossy audio file type. _____ (0.5)

iii. This is a lossless compressed file format, widely supported by various operating systems. _____ (0.5)

iv. A lossless audio file type, which was developed by Apple, and is typically used on Apple devices. _____ (0.5)

c. Describe the **TWO** audio file characteristics you named in Question 4a:

Characteristic 1: _____

_____ (2)

Characteristic 2: _____

_____ (2)

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Question 5

K-6 (8 marks)

- To complement the anthem, Carmen decided to produce a visual production.
- The anthem and visual production will be combined together into an audio-visual production.
- The latter will then be stored in a container.

a. Name **FOUR** characteristics of containers, apart from frame rate and audio coding formats.

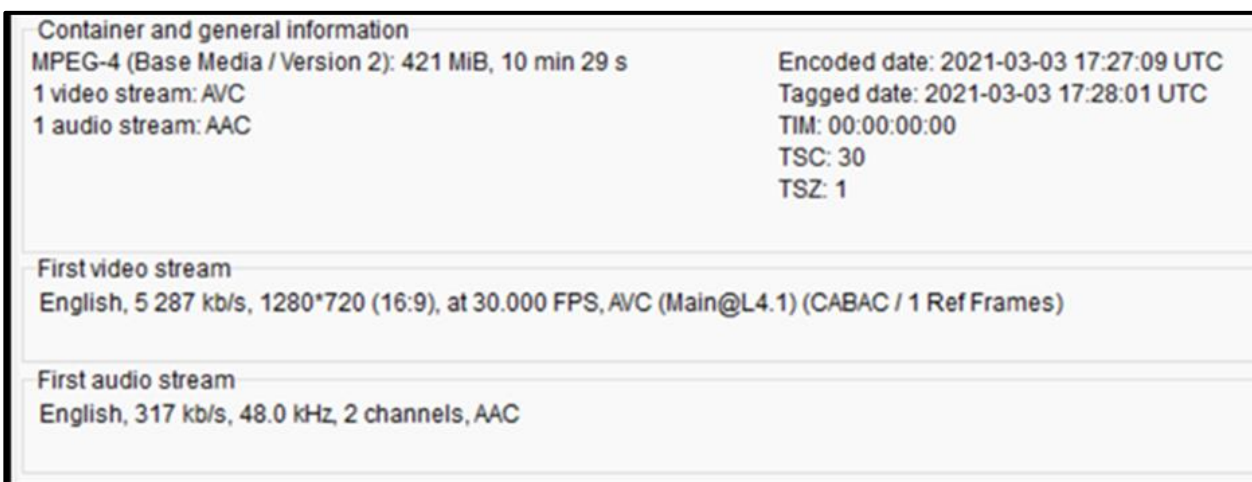
Characteristic 1: _____ (0.5)

Characteristic 2: _____ (0.5)

Characteristic 3: _____ (0.5)

Characteristic 4: _____ (0.5)

b. The screenshot below represents the properties of the MP4 container used for the audio-visual production.



From the above screenshot, identify the frame rate and the audio coding format of this MP4 container.

Frame rate: _____ (1)

Audio coding format: _____ (1)

c. Describe the following **TWO** characteristics of the MP4 container in Question 5b:

i. Frame rate: _____

_____ (2)

This question continues on next page.

ii. Audio coding format: _____

_____ (2)

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Question 6

K-8 (8 marks)

- 'Chorus' are currently using social media to promote musical events and share news with their followers.
- Carmen thinks that they should develop a website.
- The website will be used to showcase the choir's work and promote upcoming events.
- While carrying out research on website development, Carmen came across the terms static and dynamic websites.
- She would like to know more about these two types of websites.

a. Define the terms 'static website' and 'dynamic website'.

Static website: _____

_____ (1)

Dynamic website: _____

_____ (1)

b. Indicate **TWO** tools, apart from CSS, which are required to create static and dynamic websites.

Tools required to create static websites:

Tool 1: _____ (0.5)

Tool 2: _____ (0.5)

Tools required to create dynamic websites:

Tool 1: _____ (0.5)

Tool 2: _____ (0.5)

c. Identify which of the following websites is static and which is dynamic.



(Source: <https://ensemblenyc.us/>)

i. Type of website: _____ (2)



(Source: <https://homechoir.org/>)

ii. Type of website: _____ (2)

8

Please turn the page.

Question 7

K-10 (8 marks)

While looking at different websites Carmen noted that these make use of CSS.

a. Define CSS and its use.

(2)

b. Distinguish between inline and internal CSS.

(2)

c. Following is a snippet of the CSS code used in one of the websites Carmen was looking at.

```
* {  
  color: blue;  
  font-family: Arial, Helvetica, sans-serif;  
  font-size: 20px;  
}
```

Outline the use of the following CSS selector and declarations as utilised in the code above.

i. * (universal) selector: _____

(1)

ii. color declaration: _____

_____ (1)

iii. font-family declaration: _____

_____ (1)

iv. font-size declaration: _____

_____ (1)

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Question 8

C-5 (12 marks)

- Following the online research, Carmen tried to create a basic website for 'Chorus'.
- Being her first time developing websites, Carmen made some errors.

a. For each code snippet provided below, identify the line of code containing the error:

Code Snippet 1:

```
1 <!DOCTYPE html>
2 <html>
3   <body>
4     <h1>CHORUS</h1>
5     <h4>Let us change the world through music!</h2>
6   </body>
7 </html>
```

Error: _____ (2)

This question continues on next page.

Code Snippet 2:

```
1    #para {  
2        border: 5 solid red;  
3    }
```

Error: _____ (2)

b. Correct each error identified in Question 8a by writing down the appropriate code for the line containing the error.

Correct solution for code snippet 1:

_____ (2)

Correct solution for code snippet 2:

_____ (2)

c. Carmen would like to carry out some changes to the website she created.

You are required to enhance the provided code snippet by writing the code required to cater for Carmen’s needs. In your answers, include a reference to the line number before or after which your code should be inserted.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <style>
5     body {
6       font-family: Arial, sans-serif;
7     }
8
9     header {
10      clear: both;
11      color: white;
12      float: left;
13      width: 100%;
14    }
15  </style>
16 </head>
17
18 <body>
19   <header>
20     <p>Chorus</p>
21   </header>
22
23   <p>A warm melody of greetings to you!</p>
24
25   <p>We are delighted to welcome you to the online home of Chorus,
26   where voices unite, and harmonies resonate with joy.</p>
27
28 </body>
29 </html>
```

i. Carmen needs to add a footer containing the text, *Chorus 2024*, to the website.

Line before/after which the code should be added: _____

Enhanced code: _____

(2)

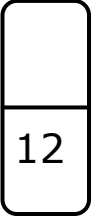
This question continues on next page.

ii. Carmen needs to set the background of the header to blue, and centre align the text within the header.

Line before/after which the code should be added: _____

Enhanced code: _____

_____ (2)



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