



L-Università
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MATSEC
Examinations Board



Marking Scheme

SEC Information Technology Unit 2

Main Session 2025

15th May 2024

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In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with the MATSEC Examinations Board when in doubt.

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Criteria Reference	The candidate should be able to:	Question Number	Maximum marks that can be achieved	Allocation of marks NOT to be subdivided any further than indicated below	Example of Expected Answer
K-1		Q1	4		
	MQF 1: List the different types of media.	1a	1	Award 0.5 marks for each correct type of media listed.	<p>Students are expected to list TWO different types of media. The following are possible answers:</p> <ul style="list-style-type: none"> • Text • Animation • ABS/PLA filament <p>Other valid answers, except for images, audio, and video, are also to be accepted.</p>
	MQF 2: Relate the different types of media with the human senses.	1b	1	Award 0.5 marks for each correctly related type of media with the human senses.	<p>Students are expected to relate each of the TWO given types of media with one of the human senses. Possible answers include:</p> <p><i>Human sense related to audio:</i> Hearing <i>Human sense related to video:</i> Sight OR hearing</p>
MQF 3: Identify the hardware required for specific media.	1c	2	Award 0.5 marks for each correctly identified hardware device.	<p>Students are expected to identify TWO hardware devices for each of the TWO given types of media, apart from keyboard and mouse. Possible answers include:</p> <p><i>Hardware required for audio:</i> Speakers AND/OR microphone AND/OR MIDI keyboard <i>Hardware required for video:</i> Monitor AND/OR speakers AND/OR microphone AND/OR (digital) camera AND/OR video capture hardware</p> <p>Other valid answers are also to be accepted. Note: The same hardware device should not be accepted for different types of media.</p>	

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K-2		Q2	4		
	MQF 1: State the main characteristics of image formats.	2a	1	Award 0.25 marks for each correct image format characteristic stated.	<p>Students are expected to state FOUR main characteristics of image formats. Characteristics can be listed in any order. The following are possible answers:</p> <ul style="list-style-type: none"> • Compatibility • Colour depth • Resolution • Compression <p>Other valid answers, except for image size and vector/raster, are also to be accepted.</p>
	MQF 2: Identify the characteristics of an image format.	2b	1	Award 0.5 marks for each correct image characteristic identified.	<p>Students are expected to identify the TWO main characteristics, image size and vector/raster, for the given image. The answers are:</p> <p><i>Image size:</i> 960 x 600 OR 960 pixels by 600 pixels</p> <p><i>Vector/raster:</i> Raster</p>

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K-2	MQF 3: Describe the characteristics of an image format.	2c	2	Award 1 mark for each correct image characteristic described.	<p>Students are expected to describe image size and vector/raster as characteristics of PNG images. The following are possible answers:</p> <p><i>Image size:</i> Image size refers to the width and height of the image and is typically measured in pixels. The value of the image size varies between image files as this depends on how big or small the image is.</p> <p><i>Vector/raster:</i> This characteristic refers to how an image is composed. A vector image is made up of paths/lines, while a raster image, such as a PNG, is made up of pixels/dots.</p> <p>Other valid answers are also to be accepted.</p>
K-4	MQF 1: Name different audio file characteristics.	3a	1	Award 0.5 marks for each correct audio file characteristic named.	<p>Students are expected to name TWO characteristics of audio files.</p> <p>Possible answers include:</p> <ul style="list-style-type: none"> • Bitrate • Compression <p>Other valid answers are also to be accepted. If students refer to compression as 'lossy/lossless/uncompressed', then this is not to be considered as valid.</p>
		Q3	4		

Criteria Reference	The candidate should be able to:	Question Number	Maximum marks that can be achieved	Allocation of marks NOT to be subdivided any further than indicated below	Example of Expected Answer
K-4	MQF 2: Relate between different types of audio files and their characteristics.	3b	1	Award 0.25 marks for each correctly related audio file type to its characteristic.	<p>Students are expected to relate the FOUR given audio file types to the appropriate statement stating their characteristics. The answers are:</p> <ul style="list-style-type: none"> i. WAV ii. AAC iii. MP3 iv. FLAC
	MQF 3: Describe the different audio file characteristics.	3c	2	Award 1 mark for each correct audio file characteristic described.	<p>Students are expected to describe the TWO audio file characteristics named in Question 3a. The following are possible descriptions:</p> <p><i>Bitrate:</i> Bitrate refers to the amount of data transferred into audio, over a period of time. It is typically measured in kilobits per second (kbps). The higher the bitrate the better the quality of the audio.</p> <p><i>Compression:</i> Compression refers to the reduction of the overall file size. Common types of compression include lossless compression where files retain the same quality and lossy compression where the quality of the audio file is reduced.</p> <p>Other valid answers are also to be accepted.</p>

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K-5		Q4	4		
	MQF 1: Name different video file characteristics.	4a	1	Award 0.5 marks for each correct video file characteristic named.	<p>Students are expected to name TWO characteristics of video files. The following are possible answers:</p> <ul style="list-style-type: none"> • Compression • Bitrate • Aspect ratio • Frame dimensions <p>Other valid answers, except for frame rate and duration, are also to be accepted.</p>
	MQF 2: Identify the characteristics of a given video file type.	4b	1	Award 0.5 marks for each correct video file characteristic identified.	<p>Students are expected to identify the TWO characteristics, frame rate and duration, for the given video file. The answers are:</p> <p><i>Frame rate:</i> 25 frames/second <i>Duration:</i> 32 seconds OR 00:00:32</p> <p><i>Note: If units are not given, answers should still be considered correct.</i></p>
MQF 3: Describe the different video file characteristics.	4c	2	Award 1 mark for each appropriate description.	<p>Students are expected to describe the TWO video characteristics, mainly frame rate and duration. The following are possible answers:</p> <p><i>Frame rate:</i> Frame rate refers to the number of frames (still images) displayed per second in a video. It is generally measured in frames per second. A video with a higher frame rate has more images being displayed in a second, thus resulting in a smoother video.</p>	

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					<p><i>Duration:</i> Duration refers to how long a video is. Hence, it is a measure of time from the beginning of a video to its end.</p> <p>Other valid answers are also to be accepted.</p>
C-3	MQF 1: Explain the limitations of a given audio and video file for a given scenario.	Q5	6	Award 1 mark for each correct limitation explained.	<p>Students are expected to explain ONE limitation of .mp3 audio files and ONE limitation of .webM video files with respect to the provided scenario. The following are possible answers:</p> <p><i>Explanation of .mp3 limitation:</i> Given that .mp3 audio files use lossy compression, certain audio information is removed. While this allows for significant file size reduction, it also results in a loss of audio quality. In television broadcasting, this is not ideal since high audio quality is essential to meet the necessary standards.</p> <p><i>Explanation of .webM limitation:</i> Even with the widespread support for the .webM file format, device compatibility may still be a problem. In fact, some of the televisions that viewers might use to view television on might not support .webM, thus making it not the best choice for television transmission in this scenario.</p> <p><i>Note: If different or the same limitations are explained for the different file types, students should still be awarded marks.</i></p> <p>Other valid answers are also to be accepted.</p>
		5a	2		

Criteria Reference	The candidate should be able to:	Question Number	Maximum marks that can be achieved	Allocation of marks NOT to be subdivided any further than indicated below	Example of Expected Answer
C-3	MQF 2: Justify an appropriate audio and video file for a given scenario.	5b	2	Award 1 mark for each appropriate justification.	<p>Students are expected to justify why .wav audio files and .mkv video files are more appropriate with respect to the provided scenario. The following are possible answers:</p> <p><i>Justification of .wav audio file:</i> For television broadcasting, .wav files are better than .mp3 audio files. .wav files are uncompressed and their file size is generally larger than .mp3 files, which are lossy compressed leading to a smaller file size. Yet, because .wav files retain all the original audio data, they produce accurate, high-quality audio that meets the demands of broadcasting.</p> <p><i>Justification of .mkv video file:</i> For this scenario, .mkv files are preferred over .webM video files. Since the .mkv file format is a more established and widely-used container format, .mkv files tend to be compatible with various devices. On the other hand, .webM, is well-supported by major web browsers, but might not be supported by televisions.</p> <p><i>Note: If different or the same limitations are explained, students should still be awarded marks.</i></p> <p>Other valid answers are also to be accepted.</p>

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C-3	MQF 3: Justify an appropriate container for a given scenario.	5c	2	Award 1 mark for each appropriate justification.	<p>Students are expected to justify why .mp4 video containers are more appropriate than .mov (QuickTime) video containers for the given scenario, based on <i>compatibility</i> and <i>file size</i>. The following is a possible justification:</p> <p><i>Justification based on compatibility:</i> .mp4 containers are compatible with almost all devices whereas .mov containers are more oriented for Apple devices. Given that broadcasting stations can have any type of device it would be best for Gianni to opt for .mp4 so as to ensure the compatibility and playback of the video advert.</p> <p><i>Justification based on file size:</i> While both .mov and .mp4 containers have similar compression efficiency the file size of .mp4 containers might be smaller. In this scenario, .mp4 containers are preferred since while small in size, enabling them also to be transferred over the internet quickly, they also offer good quality for television broadcasting and compatibility with several devices/media players.</p> <p>Other valid answers are also to be accepted.</p>

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K-7		Q6	4		
	MQF 1: List the basic elements of a website.	6a	1	Award 0.5 marks for each correct element listed.	<p>Students are expected to list TWO basic elements of a website apart from navigation menu and footer. The following are possible answers:</p> <ul style="list-style-type: none"> • Header • Main content* <p><i>* With reference to Main Content, images, videos, forms, paragraphs, lists, tables, etc. are not to be considered as valid answers, since these are part of the same element.</i></p>
	MQF 2: Identify the basic elements of a given website.	6b	1	Award 0.5 marks for each correct element, listed in Question 6a, identified.	Students are expected to identify the TWO basic elements of a website they listed in Question 6a.

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					<div style="text-align: center;"> <p>Example of Expected Answer</p> </div>  <p>Note: If students refer to 'Element 1' and 'Element 2' (referring to Question 6a) rather than 'Header' and 'Main content', marks should still be awarded as long as the correct elements are identified.</p>

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K-7	MQF 3: Outline the purpose of the basic elements of a website.	6c	2	Award 1 mark for each correctly outlined purpose.	<p>Students are expected to outline the purpose of the TWO basic elements of a website they listed in Question 6a. The following are possible answers:</p> <p><i>Header:</i> The header is the top-most part of the webpage. It typically contains information such as the name of the website/company and its logo.</p> <p><i>Main content:</i> The main content is the main part of a website containing information for users in different forms, such as paragraphs, images, and videos.</p> <p>Other valid answers are also to be accepted.</p>
		Q7	6		
C-4	MQF 1: Select appropriate elements for a given scenario.	7a	2	Award 1 mark for each appropriate element selected.	<p>Students are expected to select the appropriate navigation menu and footer for the website. The answers are:</p> <ul style="list-style-type: none"> • Navigation Menu 1 • Footer 1
	MQF 2: Justify the appropriate elements for a given scenario.	7b	2	Award 1 mark for each correct justification.	<p>Students are expected to justify the TWO elements selected in Question 7a. The following are possible answers:</p> <p><i>Justification of Navigation Menu:</i> Navigation Menu 1 is more appropriate for Gianni’s website since the hyperlinks are more meaningful as they represent their</p>

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					<p>content making it easier to navigate between pages, unlike those for Navigation Menu 2 which is a simple list of the alphabet. Moreover, Navigation Menu 1 provides a search feature making it even easier to locate the necessary information.</p> <p><i>Justification of Footer:</i> Footer 1 is preferred over Footer 2 as it contains less text making it neater and aesthetically appealing. Moreover, Footer 1 has links to various social media platforms making it easier for users to contact the developer of the website.</p> <p>Other valid answers are also to be accepted.</p>
	<p>MQF 3: Argue whether the website should be static or dynamic for a given scenario.</p>	<p>7c</p>	<p>2</p>	<p>Award 2 marks for an appropriate argumentation stating that the website should be dynamic.</p>	<p>Students are expected to provide adequate arguments in favour of a dynamic website. The following is a possible answer:</p> <p>For this scenario, a dynamic website is better than a static website. While through a static website, Gianni can make online comic books available for everyone, he would not be able to have restricted sections. Since to access the restricted sections authorised members need to log in using their credentials, this can only be achieved through a dynamic website. Hence, Gianni should consider developing a dynamic website.</p> <p>Other valid answers are also to be accepted.</p>

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K-9		Q8	4		
	MQF 1: Define HTML and its use.	8a	1	<p>Award 0.5 marks for a correct definition.</p> <p>Award 0.5 marks for a correct use.</p>	<p>Students are expected to define HTML and its use. The following is a possible answer:</p> <p><i>Definition:</i> HTML (Hypertext Markup Language) is a standard markup language.</p> <p><i>Use:</i> It is used to develop the structure of the web pages and define their content.</p> <p>Other valid answers are also to be accepted.</p>
	MQF 2: List HTML tags.	8b	1	<p>Award 0.25 marks for each correct HTML tag listed.</p>	<p>Students are expected to list ONE HTML basic tag, ONE HTML 5 tag and TWO HTML element tags, apart from .</p> <p>i. The following are possible answers for HTML basic tags:</p> <ul style="list-style-type: none"> • <html> • <head> • <title> • <link> • <body> • <p> • <h>/<h1> • <a> <p>The following are possible answers for HTML 5 tags:</p> <ul style="list-style-type: none"> • <article> • <aside> • <dialog> • <figure> • <footer> • <header> • <main> • <nav> • <section>

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					ii. The following are possible answers for HTML element tags: <ul style="list-style-type: none"> •
 • <hr> • <!--> • • • • <table> • <th> • <tr> • <td> • <div> Other valid answers, except for , are also to be accepted. <i>Note: If the angle brackets (<>) are not included, marks should still be awarded.</i>
	MQF 3: Relate attributes to the respective HTML tags.	8c	2	Award 0.5 marks for each correctly related attribute to its respective HTML tag.	Students are expected to relate the FOUR given attributes to the appropriate statement defining their use in relation to the HTML tag. The answers are: <ol style="list-style-type: none"> i. rel ii. id iii. source (src) iv. alt
		Q9	4		
K-10	MQF 1: Define CSS and its use.	9a	1	Award 0.5 marks for each part of the definition.	Students are expected to define CSS and its use. The following is a possible answer: <i>Definition:</i> CSS (Cascading Style Sheets) is a language used in conjunction with HTML to separate the design of a webpage from its content.

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					<p><i>Use:</i> This allows for better control over the layout and presentation of the HTML.</p> <p>Other valid answers are also to be accepted.</p>
	MQF 2: Distinguish between different types of CSS.	9b	1	Award 1 mark for appropriately distinguishing between external and inline CSS.	<p>Students are expected to distinguish between internal and external CSS. The following is a possible answer:</p> <p>Internal CSS is used to set styling rules for a particular HTML element, example <code></code>, which styles are applied to all similar elements found within that webpage. On the other hand, external CSS styles are defined in a separate CSS file which is then linked to one or more HTML files, hence affecting the style of the webpage or webpages to which it is linked.</p> <p>Other valid answers are also to be accepted.</p>
	MQF 3: Outline CSS selectors and declarations.	9c	2	Award 0.5 marks for each CSS selector and declaration correctly outlined.	<p>Students are expected to outline the FOUR given CSS selectors and declarations. The following are possible answers:</p> <ol style="list-style-type: none"> i. The dot (.) (class selector) indicates that all HTML elements with class attribute <i>p1</i> will be styled according to the declarations contained within the curly brackets. ii. The background declaration is used to set a green background colour behind the HTML elements with class attribute <i>p1</i>.

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					<p>iii. The font-family declaration is used to set the text of the HTML elements with class attribute <i>p1</i> to font Arial.</p> <p>iv. The margin declaration is used to create a space of 120px around the HTML elements with class attribute <i>p1</i>.</p> <p>N.B.: For Question 9c (ii) to (iv) a general outline of the declarations should not be accepted. Marks should only be awarded if the outline provided refers to the value of the declaration as per given code snippet.</p> <p>N.B.: For Question 9c (ii) to (iv), marks should still be awarded if reference is made to paragraph/s instead of the HTML elements with class attribute <i>p1</i>.</p> <p>Other valid answers are also to be accepted.</p>