COMPUTER AND INFORMATION TECHNOLOGY
PAPER 2 (MODULE D)
MULTIMEDIA PRODUCTION & WEB AUTHORING

Question-Answer Book

11.15 am – 12.15 pm (1 hour)
This paper must be answered in English

(SAMPLE PAPER)

Instructions:

1. Write your Candidate Number, Centre Number and Seat Number in the spaces provided.
2. Answer all questions.
3. Write your answers in the spaces provided in this question-answer book.
4. Supplementary answer sheets will be supplied upon request. Write your Candidate Number on each sheet and fasten them with string inside this book.
Answer ALL questions in this Question-Answer Book.

1. John visited Japan during Christmas holidays. He has decided to produce a multimedia web page to share his visit with his friends on the Internet.
   (a) Besides text and graphics, give THREE other elements of multimedia. (3 marks)

   \textit{audio, animation, video}

   John has taken many photos with a traditional camera on his trip.

   (b) What device is needed to import these photos into his computer? (1 mark)

   \textit{Scanner}

   (c) During the importing operation, there are 256 colours and 24-bit colours for selection. Which colour depth is suitable for John? Explain your answer. (2 marks)

   \textit{Select 24-bit colours.}

   \textit{It means that 16,777,216 distinct colours can be represented for each pixel.}

   \textit{Photos contain thousands of colours and are more suitable to use 24-bit representation.}

   (d) Is the photo imported by the device in part (b) a bitmap graphic or a vector graphic? Explain your answer. (2 marks)

   \textit{Bitmap graphic}

   \textit{A scanner uses bitmap format to store images.}

   (e) Suggest another method to import images to a computer other than that given in part (b). (1 mark)

   \textit{Import photo from digital camera.}

   (f) John has found that the file size of the imported photo is too large. Give THREE methods to reduce the file size. (3 marks)

   \textit{Decrease the colour depth.}

   \textit{Decrease the image resolution.}

   \textit{Use a photo format with compression (or use high compression ratio) to store the image.}

   (g) After he has imported a video into the computer, he finds that the video size is also too large. Give THREE methods to further reduce the file size. (3 marks)

   \textit{Decrease the frame rate (fps).}

   \textit{Decrease the screen size.}

   \textit{Use a video format with compression (or use high compression ratio) to store the video.}
2. The first two web pages of ABC company are shown below:

First page

ABC company

English | 中文繁體 | 中文簡体
Version: Pure text | html | Flash

800×600 recommended last modified: 7-11-2002

Second page

ABC company

<table>
<thead>
<tr>
<th>Index</th>
<th>About us</th>
<th>Special Offer</th>
<th>Support</th>
<th>Site map</th>
<th>Feedback</th>
</tr>
</thead>
</table>

About us

.....

.....

.....

Download demo file: Press Here (100K)

ABC company produces their home page in three versions: pure text, html and Flash.

(a) Why does ABC company produce a pure text version? (1 mark)

_Cater for users using slow Internet connection._

(b) Besides a web browser, what is needed to view a web site developed by flash on the computer? (1 mark)

_Flash player_

ABC company also produces their home page in different languages.

(c) Give ONE advantage and ONE disadvantage of producing web sites in different languages. (2 marks)

_Advantage: cater for users from different countries._

_Disadvantage: increase the production cost._
(d) What is the meaning of the statement “800×600 recommended” at the bottom of the first page? (2 marks)

Since the web author designs the web site with the screen resolution set to 800×600, it is better for users to browse the web site with the same resolution to view the contents as they were produced. Otherwise, contents of some web pages may display outside the screen or all contents just fill part of the screen.

(e) Give TWO reasons why it is useful to state the last modified date on the first page. (2 marks)

To remind the web author the latest version of the web page.
To show information to user whether a new version is available or not.

ABC company uses frames on the second page. The upper frame contains six categories and the lower frame shows the information.

(f) Give TWO advantages of using frames in web design. (2 marks)

Frequently used functions are put together in one frame (section). They can be accessed easily from everywhere in the web site. Since the contents of each frame are taken from a different web page, frames provide great flexibility in designing web pages.

(g) The web author provides a lot of useful features on the second page. Why is it useful for the web site to provide

(i) a site map; (1 mark)

There is a lot of information in a web site. Site map can provide a clear structure of the site and let users find the information they want quickly.

(ii) a feedback function; (1 mark)

Give a communication channel between users and web authors/the company.

(iii) information about the file size? (1 mark)

From the file size, users can estimate how long it may take for downloading the file.

(h) Peter and Mary use their computers to browse ABC company's web site at the same time. They find that the appearance of the first page on Peter’s computer is slightly different from that on Mary’s computer. Give TWO possible reasons for this difference. (2 marks)

They use different web browsers.

They use same web browsers but the settings of their web browsers are different. (e.g. different default font size)
"IT Today" is a computer magazine publishing company. This year, the company wants to publish some contents of their magazine on the Internet. Jack is the web designer of this project.

(a) What is the 'language code' first introduced in writing a web page? (1 mark)

**HTML**

(b) Instead of using the 'language code' in part (a), Jack uses a web authoring tool to produce the web site. Give THREE advantages of using such an authoring tool instead of the 'language code'. (3 marks)

No need to remember a lot of codes/syntax of the programming language.

*Web authoring tool is an WYSIWYG (what you see is what you get) application, i.e. it shows on the display screen exactly what will appear when the page is browsed.*

Many web authoring tools provide extra functions like ftp and web site management.

(c) Name TWO features Jack could add to his design to make the web page more attractive. (2 marks)

*Interactive events using JavaScript, animated graphics, music, etc. (any two)*

(d) Jack has finished his design. What must be done before people can browse the web pages on the Internet? (1 mark)

Upload all web pages to a host/ISP.

Some special software is needed for browsing web pages on the Internet.

Computer: A

![Diagram](image.png)

Computer: B

OS: P
Software: Q

OS: X
Software: Y

(e) Match A, B, M, P, Q, X and Y with the following item names:
web browser, server, Windows 98, client, Internet, Linux, web server

_A-server, B-client, P-Linux, X-Windows 98, Q-web server, Y-web browser, M-Internet_

005-CE-CIT 2D (sample)-5  - 4 -
Jack designs two pages for all existing magazine subscribers to register their personal particulars on-line as below:

User input screen

User Registration

Name: 
Sex: 
E-mail Address: 
Special Interest: 

Submit Cancel

Registration completed screen

Registration completed.

Your password will be sent to your e-mail address.

(f) Apart from designing the two screens, what should Jack do to complete the workflow described above? (3 marks)

Write a server-side program to process the information user input.

Use a file/database to store the information user input.

(g) Jack wants to modify the web page in his home but there is no web authoring tool on his computer. Suggest ONE method to overcome this problem at no extra cost. (1 mark)

Modify the HTML code directly in the text editor.
4. Tom is working in a web hosting company as a web designer. He is responsible for designing web pages according to the specifications of their clients and putting them in his company’s server.

(a) Usually, their client will provide photographs of the actual product for them.

Tom uses an image scanner to digitize the photographs and save them in JPEG or BMP formats. Which format would you suggest to Tom? State one advantage and one disadvantage of the JPEG format when compared with the BMP format. (3 marks)

**JPEG**

*Advantage: JPEG has a smaller file size. Disadvantage: some information is lost.*

(b) Tom also needs to design a logo for the client’s company. The logo will appear on the web site as well as in a wide variety of products. He prefers to use software to generate a vector graphics file instead of bitmap graphics. Give a reason to support Tom’s preference. (2 marks)

*It will not be distorted after magnification. (It is based on equation.)*

(c) The client also wants to add some interactive components to their web site. Suggest THREE features that can collect feedback and enhance sharing among end-users. (3 marks)

*Newsgroup; Notice board; Guest Book*

(d) The web site has to provide on-line shopping for end-users. An end-user has to enter some data on the web pages.

(i) The data entered need to be validated before processing. The validation can be done by Server side JavaScript or Client side JavaScript. What is the difference between the two? (2 marks)

*Server side script: the script is executed in the Web server.*

*Client side script: the script is executed in the browser’s computer.*

(ii) Which one would you prefer? State the reason for your choice. (3 marks)

*Use Client side script.*

*It reduces the CPU’s loading of Web server. Response time of validation is faster in client side.*

*It reduces the traffic between web server and client’s computer.*

(iii) The data sent through the Internet contains confidential information such as credit card information. What method should be applied to secure the data from hackers? Suggest a common protocol that can implement this method. (2 marks)

*Encrypted before sending out the data. Use HTTPS.*

END OF PAPER