

PRACTICE PAPER
INFORMATION AND COMMUNICATION TECHNOLOGY
PAPER 2C
Multimedia Production and Web Site Development
Question-Answer Book

(1 hour 30 minutes)

This paper must be answered in English

INSTRUCTIONS

- (1) After the announcement of the start of the examination, you should first write your Candidate Number in the space provided on Page 1 and stick barcode labels in the spaces provided on Pages 1, 3, 5 and 7.
- (2) **ANSWER ALL QUESTIONS.** Write your answers in the spaces provided in this Question-Answer book. Do not write in the margins. Answers written in the margins will not be marked.
- (3) Supplementary answer sheets will be supplied on request. Write your candidate number, mark the question number box and stick a barcode label on each sheet, and fasten them with string **INSIDE** this book.
- (4) No extra time will be given to candidates for sticking on the barcode labels or filling in the question number boxes after the 'Time is up' announcement.

Please stick the barcode label here.

Candidate Number

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Answer all questions.

1. Peter is the web designer of an online discussion forum. Members of the forum upload files to share with others, and most of the files are videos. He decides to set up a video-sharing web site for members to upload, share and view videos.

- (a) (i) It is found that the extensions of the files uploaded by the members include:

avi, doc, flv, mov, mp3, mpg, pdf, php, rm, wmv

Which of these are video file types?

- (ii) Suppose the web site supports all video formats. Give **two** advantages of this configuration.

(4 marks)

- (b) Peter decides that all the videos uploaded should be converted to a standard format.

- (i) Peter proposes that the videos should adopt the same video file format and have a low frame rate. Give **two** advantages of this proposal for web site development.

- (ii) Suggest **two** more attributes in which the videos can be standardised.

(4 marks)

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(c) Peter considers the following two methods of sending videos to members.

Method 1: Send the entire video to members before they watch it.

Method 2: Send the videos to members and they can watch them instantaneously.

(i) Give **two** potential advantages of each method.

Method 1: _____

Method 2: _____

(ii) Peter uses an embedded player in the design. Give **two** advantages of using the embedded player.

(6 marks)

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2. Amy is a web designer. She designs a web site to promote monuments to tourists in Hong Kong. She creates two different designs for the first page of the web site, both with text and images.

Design 1 (The descriptions of all monuments are shown on a single page.)

List of Monuments in Hong Kong




.....

.....

香港大學本部大樓 Main Building, HKU

The Main Building of the University of Hong Kong is the oldest of the University's structures. Construction of the building started in 1910 and was completed in 1912. It is an imposing institutional structure, supported by granite colonnades in Renaissance style and surmounted by a tall clock tower and four turrets.

香港大學大學堂 University Hall, HKU

University Hall, which is situated on top of a hill in Pokfulam, is a charming edifice in a blend of Tudor and Gothic architectural styles. It was built in about 1861 by a Scottish businessman, Douglas Lapraik, as his headquarters and residence and named "Douglas Castle" after him.

.....

.....

Design 2 (Images of all monuments are shown on the first page. When an image is clicked, the description of the corresponding monument will be shown.)

Design 2A (First page)

List of Monuments in Hong Kong



Main Building, HKU
香港大學本部大樓

.....

.....



University Hall, HKU
香港大學大學堂

.....

.....



Government House
香港禮賓府

.....

.....



Western Market
舊上環街市

.....

.....



St. John's Cathedral
聖約翰座堂

.....

.....



Old Supreme Court
舊最高法院

.....

.....

Answers written in the margins will not be marked.

Please stick the barcode label here.

For example, if the image of ‘University Hall, HKU’ is clicked, the following page is shown:

Design 2B

香港大學大學堂
University Hall, HKU



University Hall, which is situated on top of a hill in Pokfulam, is a charming edifice in a blend of Tudor and Gothic architectural styles. It was built in about 1861 by a Scottish businessman, Douglas Lapraik, as his headquarters and residence and named “Douglas Castle” after him.

- (a) Compare the two designs from the user’s point of view. Give **three** differences between them. For each of them, give and justify your preference.

(3 marks)

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- (b) Suggest a web page design method for aligning the information in the way shown in Design 2A.

(1 mark)

- (c) In Design 2A, Amy shows the names of monuments as images.

- (i) Give **two** disadvantages of showing English words in this way.

- (ii) Give one advantage of showing Chinese characters in this way.

(3 marks)

- (d) To reduce the download time of the images in Design 2A, Amy uses images with reduced file sizes. Suggest **three** ways in which Amy can reduce the file size of the images.

(3 marks)

- (e) Amy wants to show the images in Design 2A using interlacing. Give the main advantage of this technique.

(2 marks)

Please stick the barcode label here.

- (f) Amy takes photos of a certain monument from different angles at a resolution of $1\,600 \times 1\,200$. Then she joins them together and forms a wider image with a resolution of $16\,000 \times 1\,200$. Although 10 photos with the same height are enough to create this image, Amy decides to take pictures at two different elevation angles and at least 11 pictures for each angle. Why?

(2 marks)

- (g) Amy wants to prevent people from downloading the photos of the monuments directly during web browsing. Suggest **two** methods for Amy to do this.

(2 marks)

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3. Janice is a web designer. She is designing a web site for Easy Travel Agency. The first page of the web site is sketched below:



- (a) Janice first draws the company logo using a vector graphics software package. Then, she exports the logo using the filename 'logo.gif' with a resolution of 50×30 .

- (i) Why does Janice need to export the logo in another format instead of using the logo in vector graphics format directly?

- (ii) Give **two** reasons to explain why Janice wants to export the logo in GIF format instead of JPEG format.

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(iii) After inserting the logo into the web page, Janice feels that the web page will look much better if the resolution of the logo is 150×90 . There are two ways to alter the resolution:

- (1) Use the HTML code '``'.
- (2) Use the vector graphics software package again to export the logo with a resolution of 150×90 .

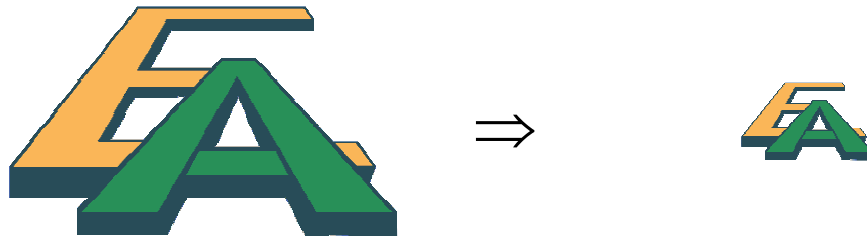
Which method do you suggest? Explain briefly.

(5 marks)

(b) Give **two** reasons to explain why Janice would like to have a text only page in addition to the graphical page in her web site.

(2 marks)

(c) Janice wants to create an animation to zoom out so that the logo of the company appears smaller, as shown below.



(i) Write down the steps to take to create this animation.

- (ii) Janice wants to set the number of frames per second for the animation as either 10 or 30. Give an advantage of each setting.

- (iii) Janice exports the animation as SWF format. Give **two** advantages of including a button for skipping the animation.

- (iv) Suggest and describe another button for the animation.

(8 marks)

4. John would like to set up a discussion forum for members to share their travel experiences. Before setting up the forum, he has to design a web page where users can sign up for new accounts, as shown below.

Enter username :

Enter a password :

Re-enter the password :

Check

Please also enter your personal details.

Name :

Sex (M/F) :

Address :

N.T.

▼

 (Region)

Shatin

▼

 (District)

Email address:

Create Account

- (a) Suggest **two** methods of entering the sex of the user, other than using a text box.

(2 marks)

Answers written in the margins will not be marked.

To sign up for a new account, users enter a unique username and type the password twice for confirmation. They can check whether the username has already been used by clicking the button 'Check'. All personal details have to be filled in.

(b) To validate the username and password, John suggests three methods below:

Method 1: plain HTML codes

Method 2: client side scripts

Method 3: server side scripts

(i) Suggest a method, 1, 2 or 3, of validating each of the following items. If more than one method is normally applicable, write down the one with the lowest number.

(1) The username consists of alphanumeric characters only. _____

(2) The maximum length of a username is 10. _____

(3) The minimum length of a password is 6. _____

(4) The two passwords are identical. _____

(5) The username has not been used. _____

(ii) If pop-up windows with error messages are to be automatically shown during the validation process, which method is applicable? Justify your answer.

(7 marks)

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(c) After creating an account, users can log on to the discussion forum and post messages there.

(i) It is commonly said that the authentication process should be done on the server side due to security issues. Explain briefly why an authentication process done on the client side is insecure.

(ii) After logging on to the discussion forum, some authentication information about users, such as username, can be stored on the client side or server side.

(1) Where is the information stored on the client side? _____

(2) Give one advantage of storing such information on the client side.

(3) Describe how to transfer this authentication information across the web pages in the forum using hidden text in HTML.

(6 marks)

END OF PAPER

Sources of materials used in this paper will be acknowledged in the *Hong Kong Diploma of Secondary Education Examination Practice Papers* published by the Hong Kong Examinations and Assessment Authority at a later stage.

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