Candidate Number

INFORMATION AND COMMUNICATION TECHNOLOGY

PAPER 2C

Multimedia Production and Web Site Development

Question-Answer Book

11.15 am – 12.45 pm (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.

Answer all questions.

1.   Amy plans to set up a web site for online learning. She uses HTML to write web pages.

(a) (i) Give a reason to support the use of the latest version of HTML.

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(ii) Give a reason against the use of the latest version of HTML.

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(2 marks)

Amy will upload some videos to the web site. She can use MP4 or WMV as the video format.

(b) (i)   Give a reason to support the use of MP4.

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(ii) Give a reason against the use of MP4.

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(iii) Other than MP4 and WMV, give two commonly used video formats in web pages.

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(4 marks)

(c) Amy creates a web page with some text using a special font.

(i)   Some users can only view the text in a different font with their browsers. Why?

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_____

(ii) Suggest **two** ways to enable all users to view the text in the special font.

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(3 marks)

There are three different settings for Amy's videos, as shown below:

	Setting 1	Setting 2	Setting 3
Frame rate	24 frames per second	30 frames per second	60 frames per second
Frame size	720 × 480	1920 × 1080	3840 × 2160
Colour depth	8-bit	10-bit	12-bit

(d) (i) Estimate the file size of an uncompressed 20-second video with Setting 2 (in MB).

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(ii) If a video with Setting 3 is converted to a video with Setting 1, how will it affect users to view the video?

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(iii) The file size of a video with Setting 3 is very large. What should Amy do so that users can view the video smoothly?

_____

_____

(6 marks)

Provided by dse.life

2. A travel agent has an online hotel booking system. The following web page illustrates a hotel booking made using the system:

Hotel Booking		
Destination: Hong Kong	Check-in: 13/5/2016	Check-out: 14/5/2016
5 Stars 20 hotels available 4 Stars 45 hotels available 3 Stars 88 hotels available	Length of stay: 1	Adult: 2 Children: 2
Search Cancel		

(a) (i) Briefly explain why a server-side script instead of a client-side script is used in the system to display hotel information when a user types 'Hong Kong' into the 'Destination' text box.

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_____

_____

(ii) When a user types '13/5/2016' into the 'Check-in' text box, '14/5/2016' will be automatically filled in into the 'Check-out' text box. Briefly explain why a client-side script instead of a server-side script is used in the system to implement this auto-fill function.

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(iii) Suggest a web page design feature to make the input of the dates more convenient.

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(4 marks)

(b) Users need to type information into the text boxes, 'Check-in', 'Check-out' and 'Length of stay'. However, the information from only two out of the three text boxes is sufficient when searching for a hotel.

(i) Give a reason to support the use of all the three text boxes.

_____

_____

(ii) Suggest and describe a validation check to improve the web page design to collect the information more precisely and efficiently.

_____

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(3 marks)

(c) Many users criticise the design of the web page for comparing hotels, which is shown below:

Hotel Comparison				X
Check-in: 13/5/2016	Check-out: 20/5/2016			Search Again
Length of stay: 7	Adult: 2	Children: 2		
Hotel Name	Stars	Price	Smoking	
Double Orange Hotel	2	$7,000	No	Book
Blue Sea Resort	5	$25,000	No	Book
Candy Hotel	3	$8,500	Yes	Book
Apple Hotel	2	$6,800	No	Book

The travel agent would like to add the following items to help users list their desired hotels. Describe how the items can help users.

(i)   Check box _____

_____

(ii) Range search _____

_____

(iii) Radio button _____

_____

(iv) Multi-level sorting _____

_____

(4 marks)

(d) The web site provides online maps of hotels. For example, when a user clicks a map button for BB Hotel, the map of BB Hotel will be displayed, as shown below:

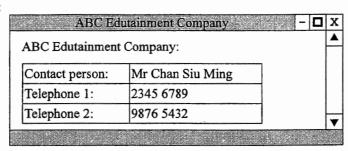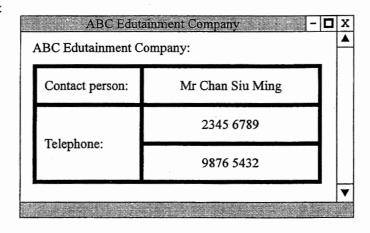(i) Suggest **three** additional map features that can help users locate a hotel.

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(ii) The travel agent finds that it is expensive and complicated to create and maintain its online maps by itself. Suggest an alternative way for the travel agent to provide online maps.

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(4 marks)

3. Danny plans to build a mobile version of the web site of ABC Edutainment Company.

(a) Give **three** considerations that Danny should take into account when building a mobile version of the web site.

(1) _____

_____

(2) _____

_____

(3) _____

_____

(3 marks)

(b) Danny edits the attributes of the table on the first page of the web site, as shown below:

Original web page:

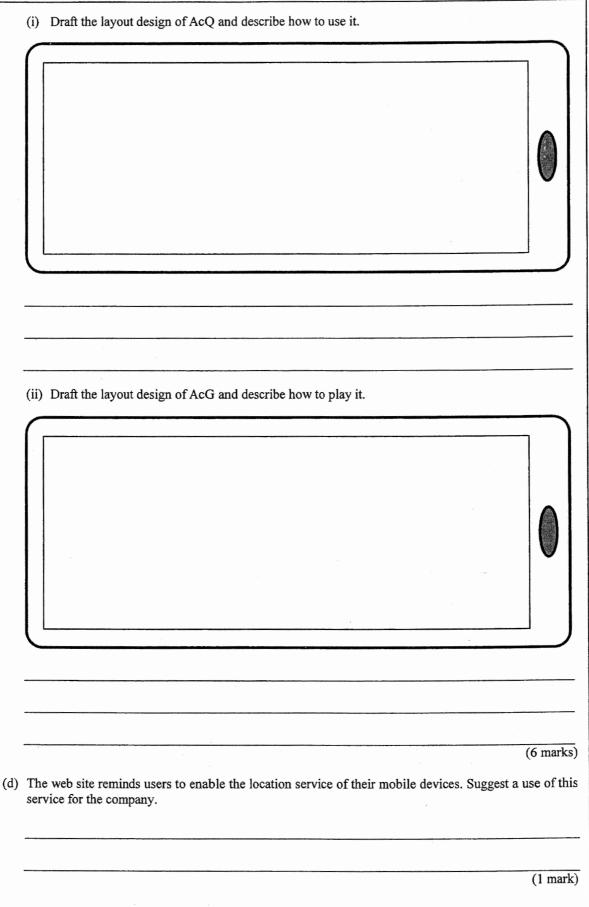| ABC Edutainment Company		─ □ X

ABC Edutainment Company:

Contact person:	Mr Chan Siu Ming
Telephone 1:	2345 6789
Telephone 2:	9876 5432

Edited web page:

ABC Edutainment Company		─ □ X

ABC Edutainment Company:

Contact person:	Mr Chan Siu Ming
Telephone:	2345 6789
	9876 5432

Other than the size of the table, give **three** attributes of the table that Danny has edited.

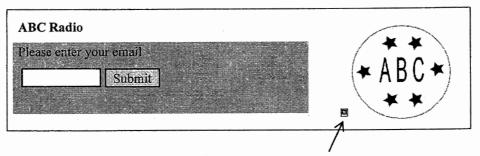_____

_____

_____

_____

(3 marks)

(c) The company plans to design a personal quiz (AcQ) and a two-player online game (AcG) for mobile devices about matching ICT acronyms and their full names, as shown below:

Acronym	Full name
CPU	Dynamic Host Configuration Protocol
DHCP	Local Area Network
.	.
.	.
.	.
LAN	Central Processing Unit

(i) Draft the layout design of AcQ and describe how to use it.

_____

_____

_____

(ii) Draft the layout design of AcG and describe how to play it.

_____

_____

_____

(6 marks)

(d) The web site reminds users to enable the location service of their mobile devices. Suggest a use of this service for the company.

_____

_____

(1 mark)

4. Peter designs a web site for ABC online radio station including the logo shown below:

(a) Someone suggests that Peter use PNG format instead of JPG format for the logo. Give **two** reasons to support the suggestion.

_____

_____

_____

(2 marks)

(b) Peter wants to use a blinking effect for a banner advertisement under the logo. Suggest **two** ways Peter can create the blinking effect.

_____

_____

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(2 marks)

Peter creates a one-minute audio file as the background music of the web site. The specifications of the audio file are

Sampling rate:	44.1 kHz
Sample size:	16 bits
Number of channels:	2

(c) (i) Estimate the file size of the uncompressed audio file (in MB).

_____

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_____

(ii) Peter wants to change the value of all the three attributes of the audio file in order to reduce its file size. Suggest the new specifications of the audio file.

Sampling rate: _____ kHz

Sample size: _____ bits
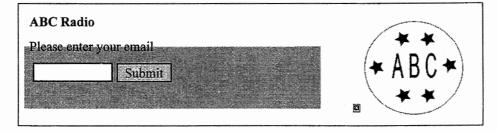
Number of channels: _____

(4 marks)

(d) Peter uses some image files including a copyright symbol stored in a USB drive to create a web page. He uploads the web page and then browses it, as shown below:

Expected copyright symbol '©'

(i) Give **two** possible reasons why the copyright symbol '©' cannot be shown.
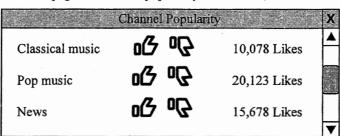
_____

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_____

_____

(ii) Peter browses the web page on another computer and finds that the position of the shaded area in the display is different, as shown below:

Give a possible reason why the position of the shaded area is different.

_____

_____

_____

(iii) Peter changes the content of the metadata in the web page. Give **two** possible reasons.

_____

_____

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_____

(6 marks)

Peter creates a web page to show the popularity of channels, as shown below:

Channel Popularity			X
Classical music	👍 👎	10,078 Likes	▲
Pop music	👍 👎	20,123 Likes	
News	👍 👎	15,678 Likes	▼

The actions to be taken by clicking on the thumb images are:

Image	Name of image	Actions after a mouse click
👍	T1	The total number of 'Likes' increases by 1 and the image turns to 👍 .
👎	T2	The total number of 'Likes' decreases by 1 and the image turns to 👎 .
👍	T3	The total number of 'Likes' decreases by 1 and the image turns to 👍 .
👎	T4	The total number of 'Likes' increases by 1 and the image turns to 👎 .

(e) Peter uses scripts to implement the actions after the mouse clicks on images T1, T2, T3 and T4. Describe the scripts for the 'Classical music' channel. You may assume that the number of 'Likes' for this channel is stored in the variable N.

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(3 marks)

END OF PAPER