

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

Pearson Edexcel International Advanced Level

Thursday 18 May 2023

Afternoon (Time: 3 hours)

Paper
reference

WIT12/01

Information Technology

International Advanced Subsidiary/Advanced Level

UNIT 2

You must have:

A computer workstation with a text editor, browser software and Questions folder (containing assets, HTML and CSS files).

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions **requiring a written answer** in the spaces provided – *there may be more space than you need.*
- Carry out the practical tasks on the computer workstation and save new or amended files using the file name given in the question.
- You must **not** use the internet during the examination.

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Save your work regularly.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A

You are advised to spend about 60 minutes on this section.

Answer ALL questions in this section.

Answer the questions requiring a written answer in the spaces provided.

Some questions will require you to save code in a specified format.

1 HTML is used to structure web pages.

(a) (i) Give **one** reason why <!DOCTYPE> is used in an HTML document.

(1)

(ii) The acceskey attribute specifies a shortcut key to activate an element.

Figure 1 shows some HTML code including an acceskey attribute.

```
2  
3 <a href="booking.html" acceskey="b1">Book meeting room</a>  
4
```

Figure 1

State why the value of the acceskey attribute in **Figure 1** is invalid.

(1)

(b) Describe a block-level element.

(2)

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(c) **Figure 2** shows how a web page must be displayed in a browser.

The HTML code should:

- display the heading **To do list**
- display the paragraph **These are the tasks that need to be completed.**
- display the nested lists.

To do list

These are the tasks that need to be completed.

- Morning meeting
 - Set up meeting room
 1. Desks arranged in circle
 2. Resource pack printed for 15 people
 - Arrange for refreshments at 10 am
 - Coffee for 8
 - Tea for 8
 - Milk
 - Sugar
 - Sweetener

Figure 2

The page does not display as intended because there are **two** errors in the HTML code.

Open file **Q01c.html** in a browser to identify the errors.

Open the file in your editor.

Amend the code to correct the **two** errors.

Save your amended code as **Q01cFINISHED.html**

(2)

(d) Explain **one** difference between functional testing and usability testing when creating a web page.

(2)

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(Total for Question 1 = 8 marks)

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P 7 2 6 0 4 A 0 3 1 6

2 CSS is used by browsers to style HTML elements.

(a) Rules are created using CSS attribute selectors such as ^ and \$

Here are two rules.

Rule 1: `img[alt^="bees"]`

Rule 2: `img[alt$="bees"]`

Explain the difference between Rule 1 and Rule 2.

(2)

.....

.....

.....

.....

(b) **Figure 3** includes the code for a navigation button.

```
6 <style>
7     img:hover {
8         opacity: .5;
9     }
10 </style>
11 </head>
12 <body>
13     <h1>Meeting room B1 layout</h1>
14     
```

Figure 3

Lines 7 and 8 in **Figure 3** show CSS styling for the image on line 14.

Describe the effect that the CSS code on lines 7 and 8 has on the image.

(2)

.....

.....

.....

.....



(c) A web page contains a square.

The square must be centred horizontally.

The coloured gradients in the square must be purple, blue and orange.

When the user hovers over the coloured square it must take three seconds to transition into a rectangle.

Open file **Q02c.html** in your editor.

Amend the CSS code to display the coloured square and implement the hover effect.

Save your amended code as **Q02cFINISHED.html**

(3)

(d) A web page contains a partially completed meal coupon that needs to be formatted using CSS.

The completed meal coupon must have:

- the image of the scissors rotated 90 degrees
- a dashed border
- a font size of 50 pixels for the text **Meal Coupon**
- an italicised **Coupon Number**

Open file **Q02d.html** in your editor.

Amend the code to complete the formatting of the meal coupon.

Save your amended code as **Q02dFINISHED.html**

(4)

(Total for Question 2 = 11 marks)



3 JavaScript provides interactivity for web pages.

(a) Regular expressions can be used to validate user input.

This is an example of a regular expression.

$$\backslash d\{4\}[A-D]\{2\}r+[a-z](f|g)$$

This regular expression would validate user input to ensure it matches this format.

4 digits (i.e. numbers 0 to 9)	$\backslash d\{4\}$
2 uppercase characters from A, B, C or D	$[A-D]\{2\}$
One or more of the character r	$r+$
1 lowercase character	$[a-z]$
The character f or the character g	$(f g)$

Examples of valid input include 1034AArrbf, 1224BCrqq, 9650ABrrwrf.

Examples of invalid input include 111ABCrag, 10abrrcf, 11111Arrag.

(i) Give **one** reason why the input R01abth would fail validation using the regular expression:

$$R\backslash d\{2\}[a-r]\{3\}(h|m)[A-Z]^+$$

(1)

(ii) Give **one** example of an input that would pass validation using the regular expression:

$$R\backslash d\{2\}[a-r]\{3\}(h|m)[A-Z]^+$$

(1)



(b) Write a regular expression that will validate user input.

It must ensure the input:

- begins with three uppercase characters
- is then followed by two digits
- is then followed by the one or more lowercase characters
- is then followed by the digit 4 or 9

(1)

(c) Open **Q03c.html** in your editor.

The code must:

- allow the user to input two numbers and click the submit button
- compare the numbers
- display the message **The numbers are the same** if the numbers are the same
- display a message such as **3 is higher than 2** if the numbers are different.

The code contains an incomplete JavaScript function.

Amend the JavaScript function so that it:

- compares the numbers
- displays the relevant message.

Save your amended code as **Q03cFINISHED.html**

(3)



(d) Open **Q03d.html** in your editor.

The code must allow the user to:

- input a last name and a first name
- click the Add button to add the last name and first name to the array
- click the Display button to display the contents of the array of names.

The code is incomplete.

Amend the code to:

- call the addName function when the Add button is clicked
- add the last name and first name to the array
- display the names in the array.

Save your amended code as **Q03dFINISHED.html**

(4)

(e) keypress and keyup are keyboard events.

Explain **one** difference between the keypress event and the keyup event.

(2)

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.....

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.....

(Total for Question 3 = 12 marks)



SECTION B

You are advised to spend about 120 minutes on this section.

Answer ALL questions in this section.

Answer the question requiring a written answer in the space provided.

Some questions will require you to save code in a specified format.

4 Everyone 4 Sport needs a web page.

A wireframe and style guide have been provided.

Figure 5 shows the wireframe.

A mock-up in PDF format can be found in the assets folder.

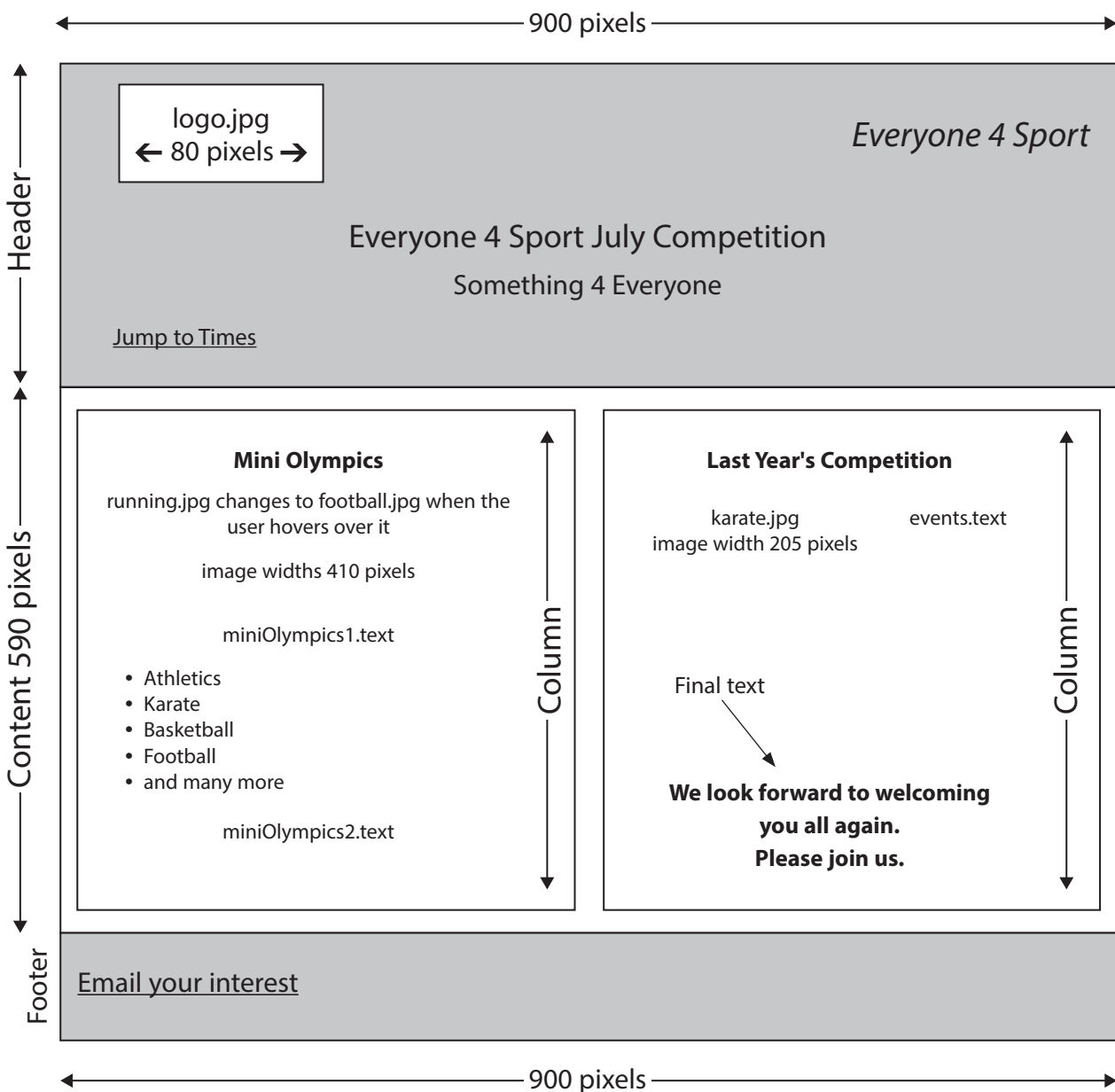


Figure 5



Overall page requirements

- Use HTML5 elements to define the different parts of the page.
- Use Verdana font style.
- Use an external style sheet.
- Use suitable padding and/or margins.

Web Design Style Guide

Header

- Set background colour to cadet blue (#5F9EA0).
- Insert the logo image as shown. The image can be found in the assets folder.
- Set the width of the logo image to 80 pixels.
- Insert the text **Everyone 4 Sport** as shown.
- Set the font size to 35 pixels.
- Set the font colour to dark slate blue (#483D8B).
- Italicise and embolden the text.
- Right-align the text.
- Insert the text **Everyone 4 Sport July Competition** as shown.
- Set the font size to 40 pixels.
- Set the font colour to dark slate blue (#483D8B).
- Centre-align the text.
- Insert the text **Something for Everyone** as shown.
- Set the font size to 25 pixels.
- Set the font colour to dark slate blue (#483D8B).
- Centre-align the text.

Hyperlink

- Insert the text **Jump to Times** as shown.
- Set the font size to 12 pixels.
- Add a hyperlink to the **times** paragraph on the page **times.html**



Content

- Set the background colour to thistle (#D8BFD8).

Columns

- Insert two columns.
- Set the background colour to tana (#D8D8BF).
- Insert the column headings **Mini Olympics** and **Last Year's Competition** as shown.
- Set the font size to 20 pixels.
- Centre-align the text.
- Insert the running and football images as shown. The images can be found in the assets folder.
- Set the width of the images to 410 pixels.
- Change the running image to the football image when the user hovers over the running image.
- Insert the karate image as shown.
- Set the width of the image to 205 pixels.
- Insert the paragraphs of text as shown. The text can be found in the assets folder.
- Set the font size to 16 pixels.
- Justify the text.
- Insert the bulleted list as shown.
- Set the font size to 16 pixels.
- Insert the final text as shown.
- Set the font-size to 20 pixels.
- Centre-align the text.

Footer

- Insert the text **Email your interest** as shown.
- Set the font size to 16 pixels.
- Set the font colour to dark slate blue (#483D8B).
- Set the background colour to cadet blue (#5F9EA0).
- Create an email link from the text **Email your interest** to everyone4sports@bibi.com

Develop a prototype web page for Everyone 4 Sport using the mock-up, style guide, images and text provided.

Save your files as **Q04FINISHED.html** and **Q04FINISHED.css**

(Total for Question 4 = 20 marks)



5 Everyone 4 Sport wants to improve the functionality of its website.

It wants to implement:

- an event results page that displays the details of the athletes who took part in the 100 m sprint event and the winner
- a page that allows the user to select an event type and display information relevant to that type of event.

All of the required files are supplied in the Q05 folder.

No additional resources are required.

You only need to add JavaScript and comments to the existing files.

Event results page

eventResults.html contains an early prototype.

When the event results page is loaded an automated method must:

- display the details of the athletes who took part in the 100 m sprint
- find the athlete with the fastest time
- display the details of the athlete with the fastest time.

Complete the prototype.

You must add suitable comments to your code to explain how it works.

Save your file as eventsResultsFINISHED.html

Events page

events.html contains an early prototype.

When the events page is loaded:

- the event type combo box is displayed
- the track event combo box is hidden
- the field event combo box is hidden.

When an event type is selected by the user an automated method must:

- display the track combo box if the user selected the track event type
- display the field combo box if the user selected the field event type.

Complete the prototype.

You must add suitable comments to your code to explain how it works.

Save your file as eventsFINISHED.html

(Total for Question 5 = 20 marks)



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6 Effective layout and a visually appealing design enhance the user experience of a web page.

A mock-up of the Everyone 4 Sport web page was provided as a PDF file in the assets folder in Question 4.

Assess the effectiveness of the use of design principles in this mock-up.

You should consider **at least two** of visual hierarchy, flow, colour theory, balance and contrast.

Refer to evidence from the mock-up to support your answer.

Area with horizontal dotted lines for writing the answer.



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(Total for Question 6 = 9 marks)

TOTAL FOR PAPER = 80 MARKS



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