Pearson Edexcel International Advanced Level

Monday 20 May 2024

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 ▶

Pearson

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 the language of an HTML document is declared.

(1)

....

....

(ii) Indenting nested elements is an example of organised syntax.

Give **one other** example of organised syntax.

(1)

....

....

(b) **Figure 1** shows some HTML code.

2	
3	`<title>Curtains for all</title>`
4	

Figure 1

Complete the table to show what will appear and where it will appear when the HTML code on line 3 is run.

(2)

What?	
Where?	

(c) **Figure 2** shows how a table of data should be displayed in a browser.

The HTML code should show:

- the title **Months and days** in the first row
- the names of the months in the second row
- the number of days in the months in the third row.

Months and days		
April	May	June
30	31	30

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 the interpretation of an <em> tag by a browser and by a screen reader.

(2)

....

....

....

....

(Total for Question 1 = 8 marks)

2 CSS is used by browsers to style HTML elements.

(a) Internal and external style sheets can be used to style websites.

Explain **one** disadvantage of using internal style sheets compared with an external style sheet if the design of the website changes.

(2)

....

....

....

....

(b) **Figure 3** shows HTML and CSS code.

```
6    <style>
7            div ~ p {
8                background-color: black;
9                color: white;
10           }
11     </style>
12   </head>
13   <body>
14     <h1>The best Tom Hanks movie ever</h1>
15     <div>
16        <p>Choose from these movies</p>
17     </div>
18     <p>Forrest Gump</p>
19     <div>
20        <p>Tom Hanks plays the main character and it
21            follows him over decades of his life.</p>
22     </div>
23     <p>Apollo 13</p>
```

Figure 3

Lines 7 to 9 in **Figure 3** show CSS styling for the text in the body section.

Describe the effect that the CSS code on lines 7 to 9 has on the text in the body section.

(2)

....

....

....

....

(c) A web page contains a heading that needs to be formatted.

The heading should be:

*   purple
*   rotated by 90˚ anti-clockwise (−90˚).

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

Amend the code to format the heading.

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

(2)

(d) A web page contains a video.

The video must:

*   have a 3-pixel black border
*   have display controls
*   play continuously once the play button has been pressed.

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

Amend the code to implement the requirements.

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

(4)

(Total for Question 2 = 10 marks)

3 JavaScript provides interactivity for web pages.

(a) **Figure 4** shows the JavaScript needed to display the names of people whose age matches the age that is input.

```
1   var nameArray = ["Samihah", "Russell", "Mobin", "Raluca"]
2   var ageArray = [15, 17, 15, 16]
3   var age = prompt("Input an age")
4   var name = ""
5
6   for (i = 0; i < ageArray.length; i ++){
7      if (ageArray[i] == age){
8         name = nameArray[i]
9         alert(name + " is " + age)
10     }
11  }
```

Figure 4

(i) Complete the table to show the values of the variables after the code is run using the input age of 15

(2)

Variable	Value
i	
name	

(ii) The JavaScript in **Figure 4** could use a two-dimensional (2D) array to hold names and ages.

Write JavaScript code for a 2D array to hold these names and ages:

Caroline 15

Paul 17

(2)

Use this space to write your code.

(b) Open file **Q03b.html** in your editor.

It contains JavaScript code that runs each time the Up button is clicked.

The code:

- checks to see if the balloon is at the top of the page
- resets the balloon to its original position if it is at the top of the page
- moves the balloon upwards by 10 pixels if it is not at the top of the page.

Each time the Right button is clicked the code must:

- check to see if the balloon is at the right edge of the page
- reset the balloon to its original position if it is at the right edge of the page
- move the balloon to the right by 10 pixels if it is not at the right edge of the page.

The top of the page is 0 pixels.

The right edge of the page is 100 pixels from the left edge of the page.

Amend the JavaScript code to complete the moveRight function.

Save your amended code as **Q03bFINISHED.html**

(3)

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

HTML code displays a combo box containing the names of shapes.

JavaScript code displays a red square, when the user selects square in the combo box.

When a different shape is selected that shape must be drawn.

The rectangle must be yellow and the circle must be blue and bigger than the square and the rectangle.

Amend the code to implement the requirements.

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

(4)

(d) **Figure 5** shows some code containing an onfocus event.

```
5     <script>
6        function change(pAge) {
7            pAge.style.background = "yellow"
8        }
9     </script>
10 </head>
11 <body>
12 Enter your age:<input type="number" name="age"
   onfocus="change(this)">
```

Figure 5

Describe the effect that the code on lines 6 to 8 has on the web page.

(2)

....

....

....

....

(Total for Question 3 = 13 marks)

TOTAL FOR SECTION A = 31 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 response in the space provided.

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

4 Scalfel Publishers is a book publisher. It needs a new responsive web page.

Two mock-ups, a style guide and some initial code have been provided. The initial code can be found in **Q04.html** and **Q04.css**

Figure 6 shows a mock-up for screen sizes less than 600 pixels wide.

Figure 7 shows a mock-up for screen sizes of 600 pixels or more wide.

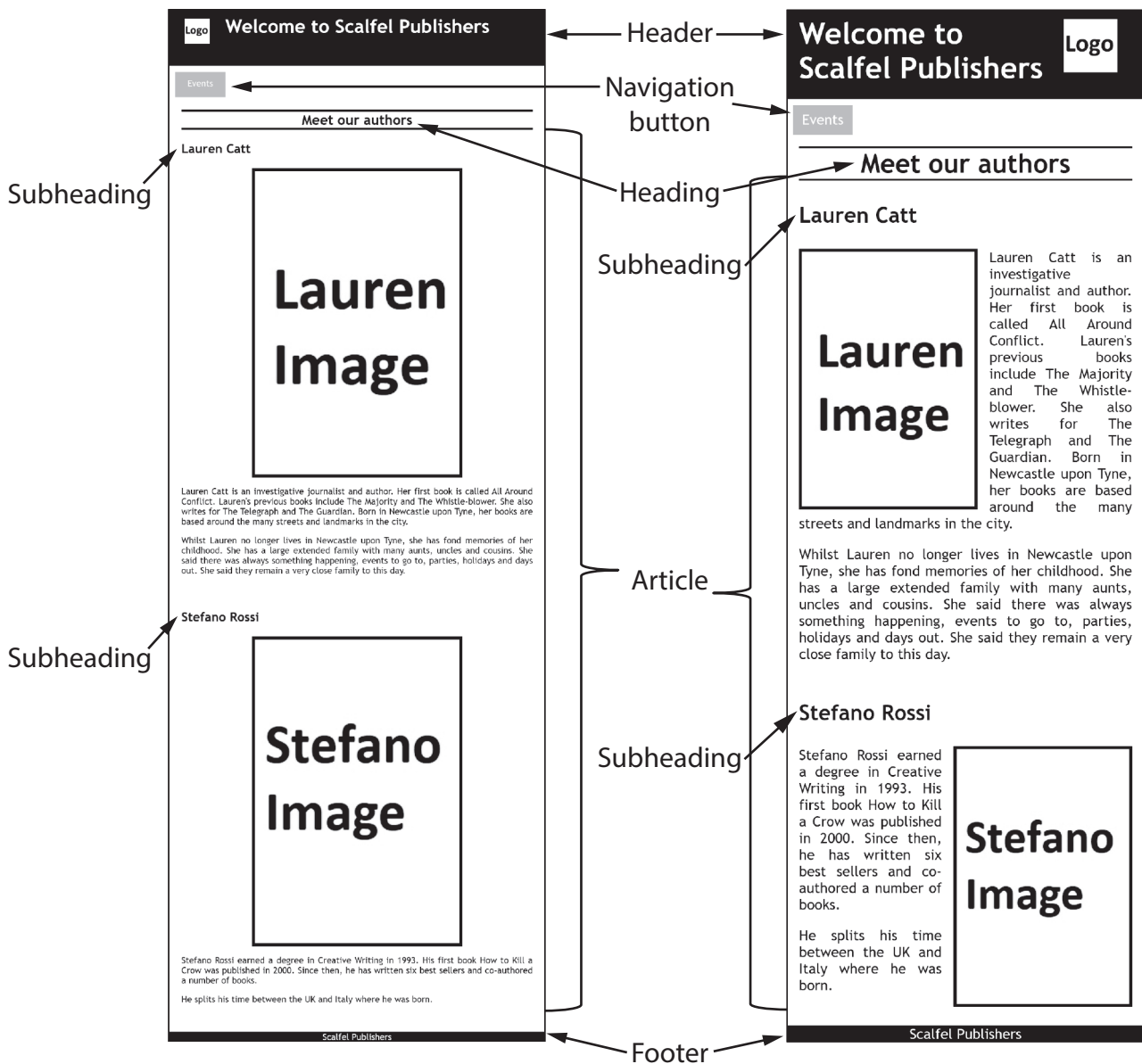PDF versions of the mock-ups can be found in the assets folder.

Figure 6   **Figure 7**

Overall page requirements
- Use HTML5 elements to define the different parts of the page.
- Use a responsive layout with a breakpoint defined to target screens at 600 pixels and above.
- Use Trebuchet MS font style.
- Use an external style sheet.
- Use suitable padding and/or margins.

Web Design Style Guide – less than 600 pixels wide (Figure 6)

Header
- Set the height to 90 pixels.
- Set the background colour to black (#000000).
- Set the font colour to white (#FFFFFF).
- Insert the logo image as shown. The image can be found in the assets folder.
- Set the width of the logo image to 50 pixels.
- Insert the text **Welcome to Scalfel Publishers** as shown.
- Set the font size of the text to 30 pixels.

Navigation button
- Create the navigation button as shown.
- Set the width to 80 pixels.
- Set the height to 40 pixels.
- Set the background colour to dark gray (#A9A9A9).

- Insert the text **Events** as shown.
- Set the font size to 14 pixels.
- Set the font colour to white (#FFFFFF).
- Centre-align the text.

- Add an external link to the page **events.html**
- Remove the underline from the external link.
- Set the hover font colour to black (#000000).

Heading
- Insert the heading **Meet our authors** as shown.
- Centre-align the text.
- Set the font size to 22 pixels.
- Set a black, 3-pixel top and bottom border.

Article
- Insert the subheadings, images and text as shown. The images and text can be found in the assets folder.
- Set the font size of the subheadings to 20 pixels.
- Set the font size of the text to 14 pixels.
- Justify the text.
- Set the width of the images to 60% of the width of the page.
- Set a black, 5-pixel border around the images.

Footer
- Set the background colour to black (#000000).
- Set the font colour to white (#FFFFFF).
- Insert the text **Scalfel Publishers** as shown.
- Set the font size to 14 pixels.
- Centre-align the text.

Web Design Style Guide – 600 pixels and over (Figure 7)

Font sizes
- Set fonts with a size of 14 pixels to 24 pixels.
- Set fonts with a size of 30 pixels to 50 pixels.
- Set fonts with a size of 22 pixels to 44 pixels.
- Set fonts with a size of 20 pixels to 36 pixels.

Header
- Set the height to 150 pixels.

Logo
- Set the width to 100 pixels.
- Right-align the logo.

Navigation button
- Set the width to 100 pixels.
- Set the height to 50 pixels.

Article images
- Set the width of both images to 300 pixels.
- Position the first image to appear to the left of the text about Lauren.
- Position the second image to appear to the right of the text about Stefano.

Develop a prototype responsive web page for Scalfel Publishers using the mock-ups, style guide, images and text provided.

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

(Total for Question 4 = 20 marks)

5 Scalfel Publishers wants to improve the functionality of its website.

It wants to implement:

- a zoom page that allows the user to zoom in, zoom out and change an author's photograph
- an author page that allows a user to add or edit the details of an author.

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.

Zoom page

zoom.html contains an early prototype that uses the images of two authors.

When the **Zoom in** button is clicked an automated method must:

- ensure the maximum height of the image is 1000 pixels
- ensure the height of the image increases by 100 pixels.

When the **Zoom out** button is clicked an automated method must:

- ensure the minimum height of the image is 100 pixels
- ensure the height of the image decreases by 100 pixels.

When the **Change image** button is clicked an automated method must change the current image to the other image.

Complete the prototype.

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

Save your file as zoomFINISHED.html

Author page

author.html contains an early prototype.

When the **Save** button is clicked an automated method must:

- store the values input on the author form in variables
- hide the author form
- show the output section
- display the author details in the output section.

When the **Edit** button is clicked an automated method must:

- display the author form
- hide the output section.

Complete the prototype.

P75877A01216

P 7 5 8 7 7 A 0 1 2 1 6

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

Save your file as authorFINISHED.html

<div align="right">

(Total for Question 5 = 20 marks)

</div>

6 Scalfel Publishers wants to expand its responsive website.

The website will include a web page for book reviews.

The web page **must** include a form to capture:

- the user's name (must be at least 3 characters)
- the user's age (must be at least 16)
- the title of the book
- the review comments
- a book rating of between 1 and 5 inclusive.

The data **must not** be saved if it does not meet the requirements.

Analyse the requirements and recommend:

- the HTML form elements you would use to capture the data
- how you would validate the form to ensure the required data is captured and valid.

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

(Total for Question 6 = 9 marks)

TOTAL FOR SECTION B = 49 MARKS
TOTAL FOR PAPER = 80 MARKS

P 7 5 8 7 7 A 0 1 5 1 6

BLANK PAGE