Cambridge IGCSE™(9–1)

INFORMATION AND COMMUNICATION TECHNOLOGY **0983/03**

Paper 3 Data Analysis and Website Authoring **October/November 2021**

2 hours 30 minutes

You will need: Candidate source files (listed on page 2)

INSTRUCTIONS

● Carry out **all** instructions in each step.
● Enter your name, centre number and candidate number on every printout before it is sent to the printer.
● Printouts with handwritten candidate details will **not** be marked.
● At the end of the examination, put all your printouts into the Assessment Record Folder.
● If you have produced rough copies of printouts, put a cross through each one to indicate that it is not the copy to be marked.
● You must **not** have access to either the internet or any email system during this examination.

INFORMATION

● The total mark for this paper is 80.
● The number of marks for each question or part question is shown in brackets [ ].

This document has **8** pages.

[Turn over

You have been supplied with the following source files:

n21banner.jpg
n21beach.mp4
n21bottles.jpg
n21chart.csv
n21costs.csv
n21islands.csv
n21plastic.css
n21plastic.jpg
n21plastic.txt
n21shore.jpg

Task 1 – Evidence Document

Create a new word-processed document.

Make sure your name, centre number and candidate number will appear on every page of this document.

Save this Evidence Document in your work area as **n21evidence_** followed by your centre number_ candidate number, for example, n21evidence_ZZ999_9999

You will need your Evidence Document during the examination to place screenshots when required.

Task 2 – Data Analysis

You work for a company planning to recycle plastic waste washed up on the beaches of many islands in the Maldives. You will create a spreadsheet to calculate the cost of a return journey from the recycling centre to an island to collect this plastic waste. All currency values must be in US dollars ($) displayed to 2 decimal places.

1   Open and examine the file **n21islands.csv** in a spreadsheet package. This file will be used to provide data for your spreadsheets and the data must **not** be copied or the file changed.

Open and examine the file **n21costs.csv** in your spreadsheet.

Place in the footer, right aligned, the text **Costs prepared by:** followed by a space, your name, centre number and candidate number, then a space followed by **on** followed by a space and today's automated date.

Save this as a spreadsheet with the file name **n21costs_**centre number_candidate number, for example, n21costs_ZZ999_9999

[3]

2 Insert 2 new rows above row 1.

Merge cells A1 to C1 and enter the text **Cost of plastic removal for one island**

Format the merged cell A1:C1 to contain white 26 point text on a dark blue background.

[6]

3 Format the spreadsheet to look like this:

	A	B	C
1	Cost of plastic removal for one island		
2			
3	Fuel cost	1.121	/litre
4	Fuel consumption	102.8	litres/hour
5	Operating speed	15	knots
6	1 knot is	1.15	mph
7	Crew rate A	8	$ per hour
8	Crew rate B	4	$ per hour
9	Port taxes	100	
10			
11	Island code	M1	
12	Island name		
13	Distance from recycling plant		miles
14	Return distance		miles
15	Return journey time		hours
16	Fuel used for journey		litres
17	Fuel cost for journey		
18	Number of crew required		
19	Cost of crew		
20	Total cost of journey		

[3]

4 In cell B12 enter a function to lookup the name of the island using the code entered in cell B11. [5]

5 In cell B13 enter a function to lookup the distance of the island from the recycling plant. [3]

6 In cell B14 enter a formula to calculate the total distance travelled to the island and back. [1]

7 In cell B15 enter a formula to calculate the number of hours the return journey will take. This is calculated as:

$$\frac{\text{Return distance}}{\text{Operating speed} \times \text{the contents of cell B6}}$$

Round this time up to the nearest whole hour.

[4]

8 In cell B16 enter a formula to calculate the fuel used for the journey. This is calculated as:

Return journey time × Fuel consumption

[1]

9 In cell B17 enter a formula to calculate the fuel cost for the journey. [1]

10 In cell B18 enter a formula so that if the return journey time is:

- less than 10 hours, it displays the value 4
- greater than or equal to 10 hours and less than or equal to 15 hours, it displays the value 6
- greater than 15 hours, it displays the value 9

[7]

11 In cell B19 enter a formula to calculate the cost of the crew for the return journey. Each journey will have 2 crew members paid at crew rate A and the other crew members will be paid at crew rate B.
[3]

12 In cell B20 enter a formula to calculate the total cost of the journey which includes fuel, the crew and port taxes. [1]

13 Apply appropriate formatting to cells containing numeric values in the spreadsheet. [1]

14 Save your spreadsheet.

Print your spreadsheet showing the formulae. Make sure the:
- row and column headings are displayed
- gridlines are displayed
- page orientation is landscape
- contents of all cells are fully visible and can be easily read.

[2]

PRINTOUT 1

Make sure that you have entered your **name**, **centre number** and **candidate number** on the spreadsheet showing the formulae.

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15 Print your spreadsheet showing the values. Make sure the:
- printout fits on a single portrait page
- row and column headings are not displayed
- gridlines are not displayed
- contents of all cells are fully visible and can be easily read.

[2]

PRINTOUT 2

Make sure that you have entered your **name**, **centre number** and **candidate number** on the spreadsheet showing the values.

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16 Change the data to calculate the cost of plastic removal from the island with the code **G5**

Print your spreadsheet showing the values. Make sure the:
- printout fits on a single portrait page
- row and column headings are not displayed
- contents of all cells are fully visible and can be easily read.

[3]

PRINTOUT 3

Make sure that you have entered your **name**, **centre number** and **candidate number** on the spreadsheet showing the values.

---

17 Open and examine the file **n21chart.csv**

Cells B2 to B10 must calculate the average distances from the recycling centre to the islands in each atoll, rounded to the nearest mile. Enter a formula in cell B2 that displays the average distance for the islands in the first atoll, and then replicate this formula into cells B3 to B10.

Create and fully label an appropriate chart to display this data.

Save this as a spreadsheet.

[9]

EVIDENCE 1

Take a screenshot of the formulae used to calculate the average distances. Place this in your Evidence Document. Make sure that all formulae are fully visible and can be easily read.

EVIDENCE 2

Take a copy of your chart. Place this in your Evidence Document. Make sure that all data and labels are fully visible and can be easily read.

[Total: 55]

Task 3 – Web Page

You are going to create a web page and stylesheet to promote recycling plastic waste. The web page and stylesheet must work in any browser.

18 Create a new folder called **plastic**

Locate the following files and store them in your *plastic* folder.

n21banner.jpg
n21beach.mp4
n21bottles.jpg
n21plastic.css
n21plastic.jpg
n21plastic.txt
n21shore.jpg

Create, in your *plastic* folder, a web page called **plastic.htm**

This web page must work in all browsers and have a table structure which fits 100% of the browser window as shown in this diagram:
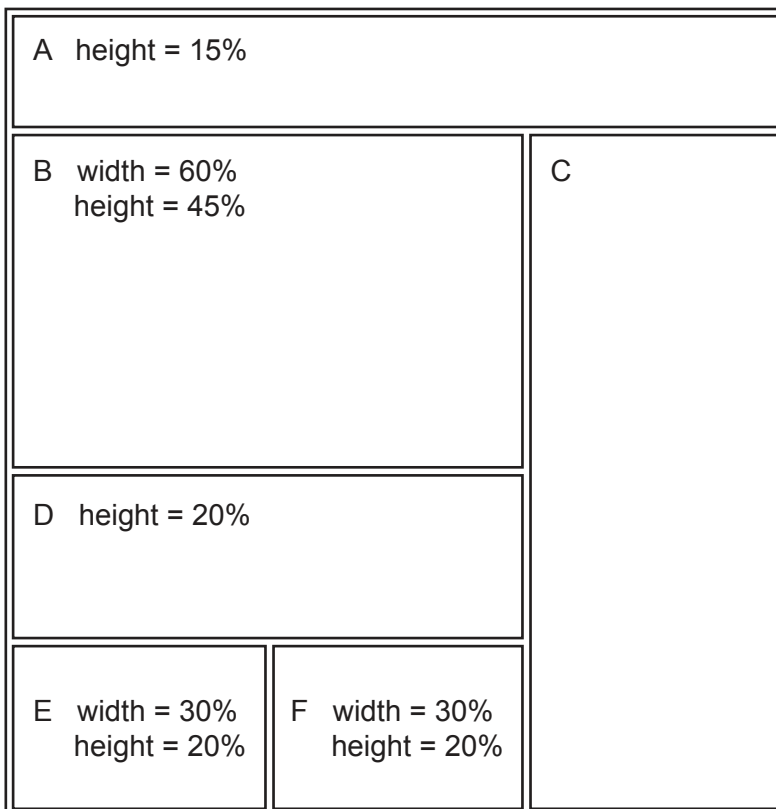
Each table cell is identified with a letter. Some dimensions are shown. These **must** be set as percentage values and not in pixels.

The cell contents shown in the diagram must **not** appear on your final web page.

Table borders must **not** appear on the final web page.

[11]

19 Place in cell:
- A the image **n21banner.jpg**
- B a placeholder to fill the width of the cell containing the video clip **n21beach.mp4** Display an automated text-based error message if the browser does not support this video type
- C the image **n21bottles.jpg**
- E the image **n21plastic.jpg**
- F the image **n21shore.jpg**

[7]

20 Place inline style attributes into the HTML, so that each image fits the width of the table cell, with its aspect ratio maintained. [2]

21 Place in cell D the contents of the file **n21plastic.txt**

Display this text as three paragraphs.

Add, as a fourth paragraph, the text:

Web page last updated by: followed by your name, centre number and candidate number

Apply style h2 to all text in cell D.

[3]

22 Attach the stylesheet **n21plastic.css** to this web page.

Save your web page.

[2]

Display the HTML source of your web page in your editor.

> **EVIDENCE 3**
> Take a copy of the HTML source and place this in your Evidence Document.

Display the web page in your browser. If necessary, resize it so that:
- all the page can be seen
- all text can be easily read
- the address bar is visible.

> **EVIDENCE 4**
> Place in your Evidence Document screenshot(s) showing the web page in your browser.

[Total: 25]

Task 4 – Printing the Evidence Document

Save and print your Evidence Document.

PRINTOUT 4

Make sure your **name**, **centre number** and **candidate number** appear on every page of your Evidence Document.