Pearson Edexcel International Award in Lower Secondary

Time 1 hour 20 minutes

| Paper reference | **LCP11/01** |

Computing
Year 9
Achievement Test

You do not need any other materials.

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 in the spaces provided
  – *there may be more space than you need.*
- You must **NOT** use a calculator.

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.
- Check your answers if you have time at the end.

Turn over ▶

Pearson

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1   Binary data is used to represent information in a computer.

(a) Which **one** of these is a binary digit?

(1)

☒   **A**   4

☒   **B**   1

☒   **C**   2

☒   **D**   8

(b) State the number of bytes in one kibibyte.

(1)

....

(c) Computers use binary patterns to represent text, images and sound.

Draw **one** straight line from **each** type of data to what the binary pattern represents for that type of data.

(3)

Type of data	What binary represents
	● Bandwidth
Text ●	● Amplitude
Images ●	● Pixels
Sound ●	● Spelling
	● Characters

(d) Here is a bitmap image.
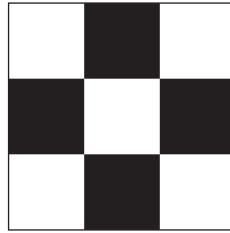
(i) State the size of the image.

(1)

....

(ii) Complete the sentence using the correct phrase from this list.

- horizontal gap
- colour depth
- binary code
- file size

(1)

The .... of the image is 1-bit.

(Total for Question 1 = 7 marks)

2 Binary can be used to represent numbers.

(a) Complete this binary addition.

(1)

$$
\begin{array}{r}
0011 \\
+0110 \\
\hline
\end{array}
$$

(b) Which **one** of these binary patterns represents the denary number 20?

(1)

☒ **A** 0010 1000

☒ **B** 0000 0000

☒ **C** 0001 0100

☒ **D** 1111 1111

(Total for Question 2 = 2 marks)

3 The ASCII code for the character A is 65

Give the ASCII code for the character C

....

(Total for Question 3 = 1 mark)

4 Which **one** of these should be used to pair a smartphone with a wireless speaker?

☒ **A** Bluetooth

☒ **B** GPS

☒ **C** Wide Area Network (WAN)

☒ **D** Wi-Fi

(Total for Question 4 = 1 mark)

5 Which **one** of these is a hardware device that converts analogue signals to digital signals?

☒ **A** Hub

☒ **B** Modem

☒ **C** Server

☒ **D** Switch

(Total for Question 5 = 1 mark)

6 Which **one** of these is an advantage of using a wired rather than a wireless network?

☒ **A** Better device portability

☒ **B** Increased noise

☒ **C** Lower latency

☒ **D** Reduced bandwidth

(Total for Question 6 = 1 mark)

7 Complete the sentence using the correct word from this list.

• Bluetooth

• GPS

• Satellite

• Wi-Fi

Global television stations broadcast using .... technology.

(Total for Question 7 = 1 mark)

8 CCTV can be used to monitor people's movements.

State **one other** way of monitoring people's movements.

....

....

(Total for Question 8 = 1 mark)

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9 Mobile phones can transmit data using Bluetooth.

State **two other** wireless communication methods used by mobile phones.

1 ....

2 ....

(Total for Question 9 = 2 marks)

10 Data packets are transmitted between computers on a WAN.

(a) State the type of device used to forward data packets on a WAN.

(1)

....

(b) State **one** reason why a data packet contains the sender's IP address.

(1)

....

(Total for Question 10 = 2 marks)

11 Which **one** of these is the type of network formed when a Bluetooth mouse is connected to a laptop?

☒ **A** LAN

☒ **B** NFC

☒ **C** PAN

☒ **D** WAN

(Total for Question 11 = 1 mark)

12 Give **two** types of storage device.

1 ....

2 ....

(Total for Question 12 = 2 marks)

13 Which **one** of these stores data and instructions?

⊠ **A** Main memory

⊠ **B** Network

⊠ **C** Operating system

⊠ **D** Packet header

(Total for Question 13 = 1 mark)

14 Which **one** of these is the reason why ROM rather than RAM is used to store startup instructions in a computer?

⊠ **A** More instructions can be stored in ROM

⊠ **B** The instructions are not very complicated

⊠ **C** The instructions must not be lost when the power is turned off

⊠ **D** RAM only stores data

(Total for Question 14 = 1 mark)

15 Which **one** of these makes it possible for a user to enter data using a mouse?

⊠ **A** Modulus operator

⊠ **B** Operating system

⊠ **C** Output device

⊠ **D** Utility software

(Total for Question 15 = 1 mark)

16 Computers use hardware.

(a) State **one** device used to enter a value into a computer.

(1)

....

(b) State the component that executes instructions.

(1)

....

....

(Total for Question 16 = 2 marks)

17 Joanna is a sports coach. She shares a training video with an athlete online.

Give the type of utility software she should use before she uploads the file and the reason why.

Type of utility software ....

....

Reason ....

....

(Total for Question 17 = 2 marks)

18 A computer program is used for an alarm system in a family home.

The program uses a logical operator to check the inputs from a motion sensor (M) and a switch (S).

These two logic statements could be used to output an alarm sound (A).

M **AND** S = A

M **OR** S = A

Compare how the use of these logic statements changes the way the alarm works.

....

....

....

....

....

(Total for Question 18 = 2 marks)

19 Computers execute arithmetic operations in a set order.

Brackets are executed first, then indices.

Give the remaining arithmetic operations in the order in which they will be executed.

....

....

(Total for Question 19 = 2 marks)

20 Explain **one** impact of the digital divide.

....

....

....

....

(Total for Question 20 = 2 marks)

21 Computers use algorithms to process data.

(a) Which **one** of these is a search algorithm?

(1)

☒ **A** Bubble

☒ **B** Compare

☒ **C** Flowchart

☒ **D** Linear

(b) Which **one** of these is a process that happens during a sort algorithm?

(1)

☒ **A** Abstract

☒ **B** Decompose
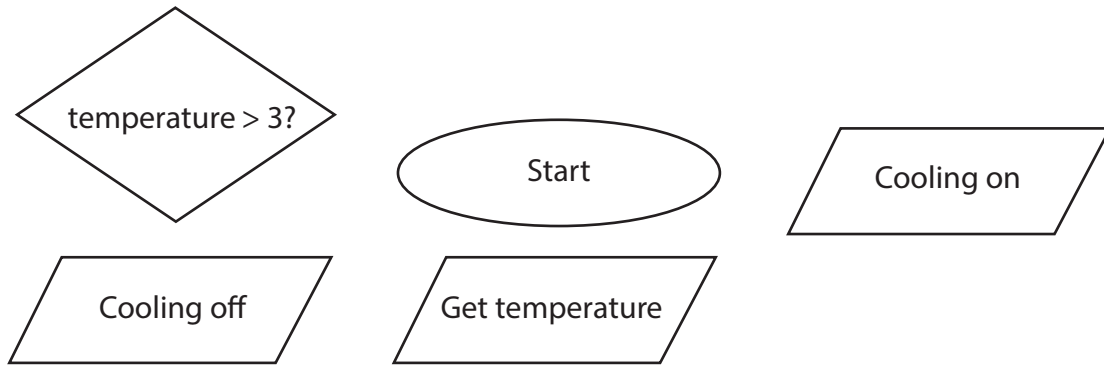
☒ **C** Model

☒ **D** Swap

(c) A flowchart represents an algorithm for a cooling system.

The system continuously checks and responds to temperature.

Draw the flowchart using these components.

You should add yes/no labels and connecting lines as needed.

(3)

(Total for Question 21 = 5 marks)

Turn over ▶

22 The code for a computer game stores the name of players in one data structure and the points they score in another.

```
1 players = ["Gill", "Monica"]
2 points = [3,7]
3 round = 0
4 newplayer = input("Enter name ")
5 newplayer = newplayer.upper()
6 players.append(newplayer)
7 points.append(0)
```

(a) State the name of **one** variable used in the code.

(1)

....

(b) State **one** function used in the code.

(1)

....

(c) State the type of data structure used in the code.

(1)

....

(d) The user enters the name "Ezra".

(i) State the value of `newplayer` after the code runs.

(1)

....

(ii) Give the contents of `players` after the code runs.

(2)

....

P 7 2 1 7 0 A 0 1 2 2 4

(e) Complete the code on lines 8 and 9 that outputs the name and points for each player.

(4)

```
1 players = ["Gill", "Monica"]
2 points = [3,7]
3 round = 0
4 newplayer = input("Enter name ")
5 newplayer = newplayer.upper()
6 players.append(newplayer)
7 points.append(0)
8 ................................ item in range (................................(players)):
9    print(................................[item],points[................................])
```

(Total for Question 22 = 10 marks)

TOTAL FOR SECTION A = 50 MARKS

Turn over ▶

SECTION B

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

23 Web authoring software is used to create web pages.

(a) State the language used to create a web page.

(1)

....

(b) One tag used to structure a web page is `<head>`

Give the tag used to structure the main section of a web page.

(1)

....

....

(c) Which **one** of these allows users to navigate to a specific section of a web page?

(1)

☒ **A** Animation

☒ **B** Bookmark

☒ **C** Formatting

☒ **D** Multimedia

(d) Which **one** of these is a type of software used to create a web page?

(1)

☒ **A** ASCII

☒ **B** HTTPS

☒ **C** URL

☒ **D** WYSIWYG

(Total for Question 23 = 4 marks)

24 A teacher is creating a presentation.

(a) Complete the sentence using the correct word from this list.

- animations

- buttons

- formatting

- transitions

(1)

A hyperlink can be added to .... on a slide.

(b) Complete the sentence using the correct word from this list.

- audience

- presenter

- speaker

- machine

(1)

When creating a presentation it is important to meet the needs of the

.... when selecting appropriate images and content.

(c) Look at this slide.

E-SPORTS

A guide for learners

Circle the embedded multimedia content on this slide.

(1)

(Total for Question 24 = 3 marks)

25 A company sends documents to customers.

(a) Complete the sentence using the correct phrase from this list.

- document type

- house style

- secondary source

- sub-heading

(1)

Companies can use a .... to make sure documents have a consistent look.

(b) Give **one** page layout option that provides a consistent look.

(1)

....

(Total for Question 25 = 2 marks)

26 An image has a width of 1064 pixels and a height of 1600 pixels.

Resize Image	✕
Width	1064
Height	1600
	CANCEL APPLY
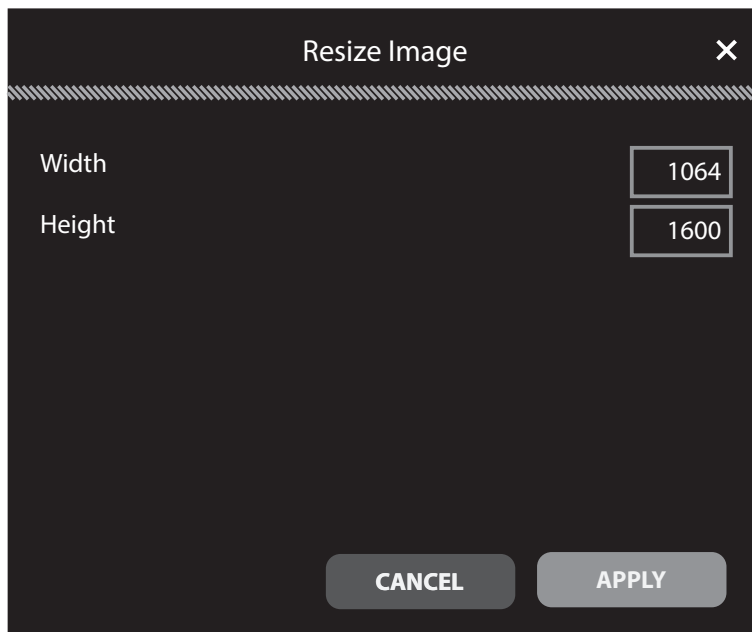
Here are the settings used to resize the image.

Resize Image	✕
Width	1000
Height	1600
	CANCEL APPLY
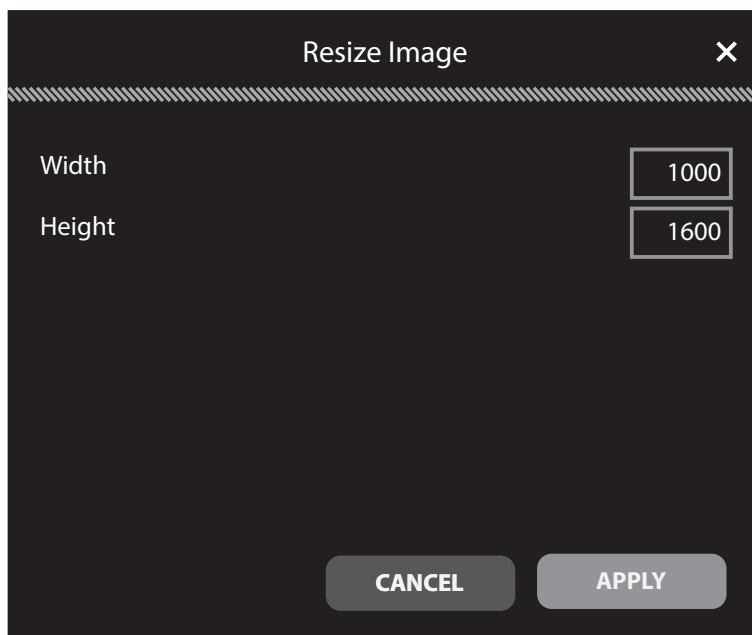
Explain the effect of resizing the image using these settings.

....

....

....

....

....

(Total for Question 26 = 2 marks)

27 Explain **one** reason why it is important to consider the intended purpose of an image when selecting a file type.

....

....

....

....

(Total for Question 27 = 2 marks)

28 An image will be used in a web page accessed by users with slow connections.

Which **one** of these would make the image fit for purpose?

☒ **A** Compressing

☒ **B** Cropping

☒ **C** Resizing

☒ **D** Painting

(Total for Question 28 = 1 mark)

29 Bold and italic are types of font enhancement used in word processing software.

State **one other** type of font enhancement that can be applied.

....

(Total for Question 29 = 1 mark)

30 Describe how a chart can be created and added to a word processing document.

....

....

....

....

....

(Total for Question 30 = 2 marks)

31 Files can be stored online.

(a) Which **one** of these gives a user the greatest permissions on a file?

(1)

☒ **A** Edit

☒ **B** Print

☒ **C** Read

☒ **D** View

(b) Which **one** of these is a reason for using hosted storage?

(1)

☒ **A** All hosted storage plans are free

☒ **B** Files can be uploaded from multiple devices

☒ **C** It is always quicker to download files than transfer them from secondary storage

☒ **D** There is no impact on the environment

(Total for Question 31 = 2 marks)

P 7 2 1 7 0 A 0 1 9 2 4

32 A chocolate shop uses a spreadsheet.

	A	B	C	D	E
1	Chocolate shop				
2	Item	Cost price	Selling price	Profit	Number in stock
3	Carachoc chew	0.4	0.76	0.36	88
4	Flakey tower	0.38	0.722	0.342	43
5	C+Cs	0.65	1.235	0.585	65
6	Coconut crunch	0.42	0.798	0.378	22

(a) Identify **one** cell that should include a formula.

(1)

....

(b) Which **one** of these cells should be formatted as currency?

(1)

☒ **A** A1

☒ **B** B2

☒ **C** D3

☒ **D** E4

(c) Give the value displayed in cell C6 after it is formatted as currency.

(2)

....

(d) Complete the function to calculate the total number of items in stock.

(2)

= ....(...)

(e) State **one** type of chart that could be used to show the proportion of the total number of items in stock for each item.

(1)

....

(Total for Question 32 = 7 marks)

33 State the **two** values that can be represented in a database by a logical/Boolean field.

1 ....

2 ....

(Total for Question 33 = 1 mark)

34 A swimming competition uses a database.

Some data from the tables are shown here.

Swimmers table

swimmer_ID	swimmer_FirstName	swimmer_LastName	swimmer_Age
1	Luke	Fielding	7
2	Kenny	Riddell	17
3	Gail	Wood	19
4	Ashley	Burrows	12

Events table

event_ID	event_Name	event_Age
Bu	Butterfly	Under 12
Fr	Freestyle	Over 18

Results table

result_ID	swimmer_ID	event_ID	position
1	1	Bu	2
2		Fr	4

(a) Complete the cell in the **Results table** to show the missing swimmer_ID.

(1)

(b) A query is used to show the names of swimmers who finished in position 1, 2 or 3.

Complete the query criterion required for the query.

(1)

position 3

(c) State **one** reason why the structure of this database is relational rather than flat file.

(1)

....

....

(Total for Question 34 = 3 marks)

TOTAL FOR SECTION B = 30 MARKS
TOTAL FOR PAPER = 80 MARKS

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