

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

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Pearson Edexcel International Award in Lower Secondary

Monday 16 October 2023

Afternoon (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.*

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.*
- You must **NOT** use a calculator.

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 ►

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SECTION A

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

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

- 1 Give the type of software that provides an interface between the computer and the user.

(Total for Question 1 = 1 mark)

- 2 Which **one** of these is a software licensing type?

- A Application
 B Proprietary
 C Unicode
 D Utility

(Total for Question 2 = 1 mark)

- 3 Computers store data.

(a) Complete the sentences using the correct words from this list.

(2)

- flash
- magnetic
- optical
- random access
- read only

A DVD is a type of disc.

Hard drives store data on media.



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

(1)

- inputs
- instructions
- outputs
- pixels

The CPU executes that are stored in main memory.

(c) Which **one** of these stores a computer's boot sequence?

(1)

- A** Central processing unit
- B** Hard disk drive
- C** One-dimensional array
- D** Read only memory

(Total for Question 3 = 4 marks)

4 Draw **one** straight line from **each** type of utility software to its correct purpose.

Utility software

Purpose

Anti-malware •

Compression •

Back up •

• Creates copies of data

• Prevents files from being deleted

• Reduces file sizes

• Removes files

• Stops spyware

(Total for Question 4 = 3 marks)



5 The Python programming language can make use of subprograms.

Here is some Python code.

```
valid = not expired(ticket) and not used(ticket)
```

(a) State the name of **one** subprogram used in this code. (1)

(b) State the name of the argument used in this code. (1)

(c) Which **one** of these is a logical operator used in this code? (1)

- A =
- B and
- C (ticket)
- D valid

(d) Complete the sentence using the correct option from this list. (1)

- data structure
- parameter
- relational operator
- return value

An argument is passed to a in a subprogram.

(Total for Question 5 = 4 marks)



6 Here is some Python code.

It runs a welcome subprogram when the correct personal identification number (PIN) is entered by the user.

```
1 pin = input("Enter the PIN: ")
2 pin = int(pin)
3 if pin = 3684:
4     welcome()
```

(a) The code contains a syntax error.

Circle the error in the code.

(1)

(b) Explain why the code in line 2 is required.

(2)

.....

.....

.....

.....

(Total for Question 6 = 3 marks)

7 Here is some Python code.

```
word = "structure"
```

Complete the output for each line of code in the table.

Code	Output
<code>print (word[-1])</code>	
<code>print (word[2:])</code>	

(Total for Question 7 = 2 marks)

.....

.....

.....

.....



8 State **two** ethical impacts of using technology. These can be positive or negative.

1

.....

2

.....

(Total for Question 8 = 2 marks)

9 Data can be sent between computers using networks.

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

(1)

- headers
- hyper-text
- packets
- URLs

Data is split into for transfer across a network.

(b) Which **one** of these is possible with the use of ID cards and CCTV?

(1)

- A** Allow specific traffic into a network
- B** Intercept GPS data
- C** Monitor the movement of individuals
- D** Protect the online identity of users

(c) One benefit of using a wired rather than a wireless network is faster data transfer.

State **one other** benefit of using a wired rather than a wireless network.

(1)

.....

.....

(Total for Question 9 = 3 marks)



10 State **one** use of web filter software.

(Total for Question 10 = 1 mark)

11 Which **one** of these is a description of the internet?

- A A browser
- B A network of linked computers
- C A protocol for transferring data
- D A search engine

(Total for Question 11 = 1 mark)

12 Complete the sentence using the correct option from this list.

- router
- switch
- web server
- wireless access point

A URL is the address of a

(Total for Question 12 = 1 mark)

13 Complete the sentence using the correct option from this list.

- local area network
- modem
- search engine
- web browser

A converts digital data to analogue data.

(Total for Question 13 = 1 mark)



14 A customer pays in a shop using contactless payment.

(a) State **one wireless** protocol used for contactless payment.

(1)

(b) State **one** protocol used to keep payment details secure when they are transmitted across the internet.

(1)

(Total for Question 14 = 2 marks)

15 A bubble sort is a simple sorting algorithm.

(a) The first pass of a bubble sort algorithm is shown in the table.

The steps are in the wrong sequence.

Complete the table by numbering the steps in the correct order.

Steps 1 and 2 have been completed for you.

(3)

	STEP
1	Start with the first item in the list
	Move to the next item in the list
	Go back to the start of the list
	If the value of the item is greater than the value of the next item, swap the items
	Continue steps 2 to 4 until there are no more items to compare
2	Compare the value of the item with the value of the next item



(b) Describe the condition that causes a bubble sort algorithm to end.

(2)

.....

.....

.....

.....

(c) The algorithm could be changed by adding a final step that reduces the number of comparisons required.

Which **one** of these is the reason the change makes the algorithm more efficient?

(1)

- A** The algorithm will not need to loop
- B** The first item does not need to be checked
- C** The largest item from the last pass does not need to be checked
- D** The size of the list is reduced

(Total for Question 15 = 6 marks)

16 Computers use binary to represent information.

(a) Which **one** of these is the number of bits in one byte?

(1)

- A** 4
- B** 8
- C** 1000
- D** 1024

(b) Convert the denary integer 91 to binary.

(2)

.....

(c) An image is represented by this binary pattern.

0010 1001 1010 1101

Complete the grid to show the image represented by the binary pattern.

(2)

(Total for Question 16 = 5 marks)

17 Data representation is often not perfect.

(a) State **two** ways to improve the representation of bitmap images.

(2)

1

2

(b) Describe how sound is represented by a computer.

(3)

.....

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(Total for Question 17 = 5 marks)



18 The denary character code 99 represents the character c in ASCII.

State the character represented in ASCII by the denary character code 101.

(Total for Question 18 = 1 mark)

19 A computer game stores the highest score.

A subprogram checks the value of a player's score, which is held as an integer in the variable `score`.

If the player beats the highest score, the subprogram returns the player's score as the new value of the variable `highscore`.

Complete the subprogram by adding Python code on the dotted lines.

```
1 def update_scores(highscore, score):  
2     if .....highscore:  
3         ..... = .....  
4     return (highscore)
```

(Total for Question 19 = 4 marks)

TOTAL FOR SECTION A = 50 MARKS



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 ☒.

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

- bitmaps
- formats
- paths
- pixels

Vector graphics files use to draw lines.

(Total for Question 20 = 1 mark)

21 Which **one** of these is only possible with a bitmap file?

- A Create digital art
- B Crop sections
- C Layer photos
- D Resize images

(Total for Question 21 = 1 mark)

22 State **one** disadvantage of using vector graphics rather than bitmap graphics to display a human face.

.....

.....

(Total for Question 22 = 1 mark)

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23 A web page includes a background image.

Explain the most appropriate choice of file type for the image.

.....

.....

.....

.....

(Total for Question 23 = 2 marks)

24 Images are often included in presentations.

(a) Give **one other** type of content used in presentations.

(1)

.....

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

(1)

- bookmark
- hyperlink
- transition
- vector

An image can include a to external content.

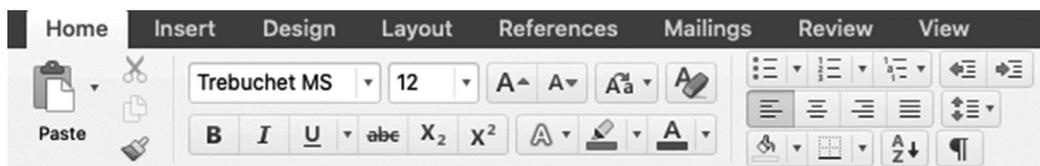
(Total for Question 24 = 2 marks)

.....



25 A student is editing a document using word processing software.

(a) Look at this toolbar.



Circle the **two** buttons on the toolbar that would be used to change the text from the original text to the new text.

*The font size of the text has **not** changed.*

(2)

Original	New
Text	Text

(b) State **one** page orientation.

(1)

(Total for Question 25 = 3 marks)

26 A document includes this image:



State **one** component of a document that a user could include to show the character is talking.

(Total for Question 26 = 1 mark)



27 Some databases are flat files.

(a) Which **one** of these describes a flat file?

(1)

- A** All data is stored in a single table
- B** Data is linked using unique keys
- C** Queries cannot be run on the data
- D** No unnecessary data is included in the file

(b) Which **one** of these is the number of values provided by a Boolean data type?

(1)

- A** 1
- B** 2
- C** 4
- D** 8

(c) Which **one** of these is a relational operator used in a query?

(1)

- A** ^
- B** \
- C** <>
- D** {}

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

(1)

- cell
- field
- key
- row

Each in a table represents a record.

(Total for Question 27 = 4 marks)



28 Which **one** of these is a reason for using a file compression tool?

- A Files are stored randomly on a disk
- B The current application is hosted
- C There is not enough free disk space
- D Too many files are stored in a folder

(Total for Question 28 = 1 mark)

29 Which **one** of these is an advantage of using cloud-based hosted storage?

- A Faster file access than from local storage
- B Files can be accessed from multiple devices
- C Folders are automatically compressed
- D No local storage needed

(Total for Question 29 = 1 mark)

30 Look at **Figure 1**.

It shows part of a spreadsheet used to track the performance of a football player.

	A	B	C	D	E	F
1	Game	Points	Minutes	Goals	Assists	Yellow cards
2	1	0	90	0	0	0
3	2	-2	90	0	0	1
4	3	5	85	1	0	0
5	4	3	45	1	0	1
6	5	3	86	0	1	0
7	6	13	79	2	1	0

Figure 1



(a) Give the number of games that will be shown when this filter is applied.

(1)

Number of games

(b) A player is awarded five points for a goal and three points for an assist.

A player loses two points if they receive a yellow card.

Complete the formula that should be used in cell B7.

(3)

= * + * - *

(c) State the type of graph that should be used to show the relationship between minutes played and goals scored.

(1)

(d) A spreadsheet function is required to display the **most** goals scored (column D) in a game.

Complete the function that should be used.

(2)

= (.....)

(Total for Question 30 = 7 marks)

31 Web pages use HTML.

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

(1)

- anchor
- body
- head
- paragraph

The <title> HTML tags are placed inside <.....>
HTML tags.

(b) Explain **one** benefit of using WYSIWYG (what you see is what you get) tools rather than writing HTML code.

(2)

.....

.....

.....

.....

(Total for Question 31 = 3 marks)



32 A manufacturer needs a poster to advertise a new electric vehicle.

(a) Give **one** benefit of using a graphics application rather than a presentation application for this.

(1)

(b) The company has data about sales of its cars over the last 40 years.

Explain **one** reason why the company looks for trends in the data.

(2)

(Total for Question 32 = 3 marks)

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



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