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*.

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 ▶

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   Data is split into packets for transfer across a network.

(a) State what is meant by the term **network**.

(1)

....

....

(b) Which **one** of these is included in a packet header?

(1)

⊠   **A**   GPS data

⊠   **B**   HTML

⊠   **C**   Sequence number

⊠   **D**   Web server URL

(c) State **one** reason for using filter software in a network.

(1)

....

....

(Total for Question 1 = 3 marks)

2   State **one** wireless protocol used by contactless payment cards.

....

(Total for Question 2 = 1 mark)

3 Which **one** of these is a description of the World Wide Web?

$\boxtimes$ **A**   A browser

$\boxtimes$ **B**   A collection of linked pages

$\boxtimes$ **C**   A protocol for transferring data

$\boxtimes$ **D**   A search engine

(Total for Question 3 = 1 mark)

4 Computers use communication technology.

(a) Give **two** ways that technology enables the communications of individuals to be monitored.

(2)

1 ....

....

2 ....

....

(b) Give **two** ways to protect your online identity.

(2)

1 ....

....

2 ....

....

(Total for Question 4 = 4 marks)

5 Complete the sentence.

The operating system provides an interface between the computer and the

....

(Total for Question 5 = 1 mark)

6 Which **one** of these is a type of utility software?

☒ **A** Application software

☒ **B** Compression software

☒ **C** Operating system software

☒ **D** Programming software

(Total for Question 6 = 1 mark)

7 Here is some Python code.

$$a = b \ AND \ c$$

Which **one** of these describes the use of the = symbol?

☒ **A** Assignment

☒ **B** Comparison

☒ **C** Iteration

☒ **D** Selection

(Total for Question 7 = 1 mark)

8 The Python programming language uses operators.

(a) The table contains two arithmetic operators.

Complete the description of **each** operator in the table.

(2)

Operator	Description
//	
%	

(b) Which **one** of these is a relational operator?

(1)

☒ **A** >

☒ **B** OR

☒ **C** +

☒ **D** ( )

(Total for Question 8 = 3 marks)

9 Which **one** of these is a feature of both a linear search algorithm and a bubble sort algorithm?

    ☒   **A**   Compare

    ☒   **B**   Copy

    ☒   **C**   Shuffle

    ☒   **D**   Swap

(Total for Question 9 = 1 mark)

10 Draw **one** straight line from **each** hardware component to its correct purpose.

Hardware component   **Purpose**

                                              Executes instructions

    Central processing unit   Holds start up instructions

    Main memory   Stores executing programs

    Secondary storage   Keeps programs and data indefinitely

                                              Inputs data into a computer

(Total for Question 10 = 3 marks)

11 Computers store data.

(a) Complete the sentences.

(2)

A magnetic medium is used in .... disk drives.

An optical .... is used to play a DVD.

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

- bytes
- hackers
- vibrations
- viruses

(1)

Solid state storage is the best choice for wearable devices because

.... will not affect their ability to read and write data.

(c) Which **one** of these is a benefit of the type of media used by solid-state drives?

(1)

☒ **A** Energy efficient

☒ **B** Fast spin speed

☒ **C** More secure

☒ **D** Read only

(Total for Question 11 = 4 marks)

12 Computers use binary to represent information.

(a) Which **one** of these is the number of bytes in one kibibyte?

(1)

☒ **A** 4

☒ **B** 8

☒ **C** 1000

☒ **D** 1024

(b) Convert the denary integer 102 to 8-bit binary.

(2)

....

....

....

....

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

1010 0001 1000 1001

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

(2)

(Total for Question 12 = 5 marks)

13 Here is some Python code.

```
check = input("Once more, please: ")
```

(a) Which **one** of these is the term used to describe `check`?

(1)

⊠ **A** Algorithm

⊠ **B** Character

⊠ **C** Integer

⊠ **D** Variable

(b) Describe what the code will do after the prompt is displayed.

(2)

....

....

....

....

(Total for Question 13 = 3 marks)

14 Here is some Python code.

```
word = "complicated"
```

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

Code	Output
`print (word[1])`	
`print (word[5:])`	

(Total for Question 14 = 2 marks)

15 A linear search algorithm is used to find a value in a list.

(a) Describe how a linear search algorithm works.

(3)

....

....

....

....

....

....

....

(b) Which **one** of these positions in the list requires the **fewest** comparisons to find the value?

(1)

☒ **A** First

☒ **B** Last

☒ **C** Middle

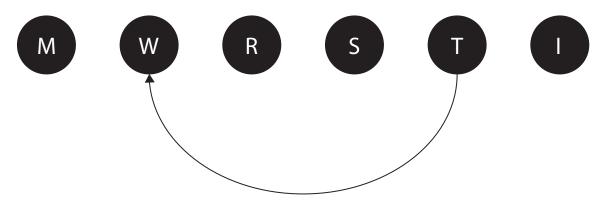☒ **D** Middle −1

(Total for Question 15 = 4 marks)

16 A tablet computer needs to connect to the Internet.

All these devices are used.

- Modem (M)
- Wireless access point (W)
- Router (R)
- Switch (S)
- Tablet (T)
- Internet (I)

Complete the diagram, by drawing arrows to show the connections required between devices, so the tablet can connect to the Internet.

The first connection has been drawn for you.

M   W   R   S   T   I

(Total for Question 16 = 3 marks)

17 This piece of text is stored online.

The phrase 'hockey match' in Russian is хоккейный матч

(a) State **one** reason why Unicode rather than ASCII is used to encode the text.

(1)

....

....

(b) State the number of different characters that can be represented using **7-bit** ASCII.

(1)

....

(Total for Question 17 = 2 marks)

18 Explain why more storage is required when the sample rate for a sound is increased.

....

....

....

....

....

(Total for Question 18 = 2 marks)

19 This subprogram contains Python code that outputs all integers from a given integer to 0.

```
def countDown(number):
    while number > 1:
        number = number - 1
        print(number)
```

(a) The subprogram contains two errors.

Give the output of the subprogram when the code `countDown(10)` runs.

(1)

....

....

....

....

....

....

....

....

....

....

....

(b) State the name of the parameter used in the subprogram.

(1)

....

(Total for Question 19 = 2 marks)

20 A program checks a number and outputs an appropriate message depending on whether it is positive, negative or 0.

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

```python
num1 = input("Please enter a number")

num1 = ........................................ (num1)

if num1 ........................................ 0:

   print("Your number is positive")

........................................ num1 < 0:

   print("Your number is negative")

........................................:

   print("You entered 0")
```
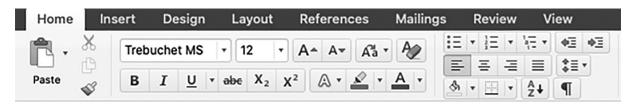
(Total for Question 20 = 4 marks)

TOTAL FOR SECTION A = 50 MARKS

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 ☒.

21 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:

• fully justify text

• change text to italics.

(2)

(b) State **one** component of a document that can have text added to it.

(1)

....

(Total for Question 21 = 3 marks)

22 State **one** reason why a pie chart is more useful than a table when displaying percentage data.

....

(Total for Question 22 = 1 mark)

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

• line

• pixel

• shape

• vector

Bitmaps assign a colour to each .... in the image.

(Total for Question 23 = 1 mark)

24 A company uses cloud-based presentation software.

(a) Which **one** of these describes **all** cloud-based software?

(1)

× **A** Expensive

× **B** Hosted

× **C** Offline

× **D** WYSIWYG

(b) State **two** features of presentations that can have timings applied.

(2)

1 ....

2 ....

(Total for Question 24 = 3 marks)

25 A school uses a relational database.

(a) Which **one** of these describes a primary key?

(1)

☒ **A** A password used to secure a database

☒ **B** A unique identifier for a record

☒ **C** The first key in a table

☒ **D** The single criterion used in a query

(b) Which **one** of these is a data type that would be used to store the name of a month?

(1)

☒ **A** Date/Time

☒ **B** Logical

☒ **C** Number

☒ **D** Text

(c) Which **one** of these is a benefit of producing a database report?

(1)

☒ **A** Additional data collection

☒ **B** Clear presentation to a wider audience

☒ **C** Enhanced data analysis tools

☒ **D** Improved reliability

(Total for Question 25 = 3 marks)

26 A teacher needs to analyse her students' examination results.

State the **type** of software application the teacher should use.

....

(Total for Question 26 = 1 mark)

27 Look at **Figure 1**.

It shows part of a spreadsheet used to calculate costs for a birthday party.

A clown will provide entertainment.

	A	B	C	D	E
1			Price each	Number per guest	Total cost per guest
2	Gifts	Balloons	£0.30	1	£0.30
3		Party hats	£0.33	1	£0.33
4		Toy	£0.49	1	£0.49
5					
6	Food	Sandwiches	£0.99	2	£1.98
7		Ice Cream	£0.45	£1.00	£0.45
8					
9		Guests	30		
10		Number of family members	4		
11		Clown	£60.00		
12		Venue hire	£100.00		
13		Total cost of gifts for guests	£33.60		
14		Total cost of food for guests, family and clown			
15					
16		Total cost			

Figure 1

(a) The format used in cell D7 is not correct.

State the format that should be used in cell D7.

(1)

....

(b) Each guest is given a balloon, party hat and a toy.

Complete the function used in cell C13.

(1)

=SUM(E2:E4)*.............................

(c) Family members and the clown will have the same number of food items as guests.

Complete the formula that should be used in cell C14.

(3)

=(...) .... (...)

(d) A function is used in cell C16 to display the total cost.

Complete the function used in cell C16.

(2)

= .... (...)

(Total for Question 27 = 7 marks)

28 State **one** advantage of using vector graphics rather than bitmap graphics.

....

....

....

(Total for Question 28 = 1 mark)

29 Which **one** of these should be used to remove an unwanted part of an image?

- ☒ **A** Compress

- ☒ **B** Crop

- ☒ **C** Enhance

- ☒ **D** Resize

(Total for Question 29 = 1 mark)

30 Anchors are used in web pages.

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

- body

- head

- foot

(1)

Anchors are placed in the .... of the page.

(b) Explain why anchors are used in a web page.

(2)

....

....

....

....

....

(Total for Question 30 = 3 marks)

31 State **one** file permission that prevents others from editing a file.

....

....

(Total for Question 31 = 1 mark)

32 A photographer uses a web page to sell his finished images.

State **one** reason why compression is used on the photos.

....

....

(Total for Question 32 = 1 mark)

33 A shape and a text box need to be kept together in a document.

Describe how a formatting option can be used to do this.

....

....

....

....

(Total for Question 33 = 2 marks)

34 A company sends a range of digital communications.

Explain why employees must use the company's house style when communicating with customers.

....

....

....

....

(Total for Question 34 = 2 marks)

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

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