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 ▶

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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 Computers use hardware and software.

(a) State **one** use of utility software.

(1)

....

....

(b) Which **one** of these executes instructions?

(1)

⊠ **A** CPU

⊠ **B** RAM

⊠ **C** ROM

⊠ **D** WAN

(c) Which **one** of these is a benefit of open source software?

(1)

⊠ **A** The code can be modified

⊠ **B** The code is easier to write

⊠ **C** The code is more secure

⊠ **D** The code takes less time to download

(d) Main memory is used in a computer system.

Explain **one** reason why secondary storage is also required.

(2)

....

....

....

....

(e) Which **one** of these is an input device?

(1)

☒ **A** Bluetooth

☒ **B** Printer

☒ **C** Speaker

☒ **D** Webcam

(Total for Question 1 = 6 marks)

2 Users of digital technology should act responsibly.

(a) State **one** way the use of batteries can damage the environment.

(1)

....

(b) A social media account setting is changed to **friends only**.

Which **one** of these does this improve?

(1)

☒ **A** Access to information

☒ **B** Copyright of media

☒ **C** Privacy of data

☒ **D** Spread of news

(c) State **one** reason for reducing the digital divide.

(1)

....

....

....

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

- eavesdropping
- plagiarism
- piracy
- transmission

(1)

Digital .... is the process of downloading and distributing copyrighted material without permission.

(Total for Question 2 = 4 marks)

3   Which **one** of these is the maximum range of devices connected using a personal area network?

☒   **A**   10 millimetres

☒   **B**   10 centimetres

☒   **C**   10 metres

☒   **D**   10 kilometres

(Total for Question 3 = 1 mark)

4   Give **two** drawbacks of using WiFi to connect computers in a network.

1 ....

....

2 ....

....

(Total for Question 4 = 2 marks)

5 Data can be transmitted in packets.

Give **two** pieces of control information provided in a packet header.

1 ....

....

2 ....

....

(Total for Question 5 = 2 marks)

6 Which **one** of these is a uniform resource locator (URL)?

☒ **A** 192.168.0.1

☒ **B** computing@pearson.com

☒ **C** https://www.pearson.com

☒ **D** index.html

(Total for Question 6 = 1 mark)

7 Draw **one** straight line from **each** storage device to the correct reason for use.

Storage device	Reason for use
	Most cost efficient for large storage
Hard-disk drive	Not affected by vibrations
Optical disc drive	Not affected by power surges
Solid state drive	Compresses all data when writing
	Most compatible with anti-malware

(Total for Question 7 = 3 marks)

8 Which **one** of these does the operating system provide to the user?

⊠ **A** Collaboration

⊠ **B** Filter

⊠ **C** Hypertext

⊠ **D** Interface

(Total for Question 8 = 1 mark)

9 The Python programming language uses operators.

(a) The table contains two relational operators.

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

(2)

Operator	Description
<=	
!=	

(b) Complete the table with the operator used for **each** type of division.

(2)

Type of division	Operator
Modulus	
Integer division	

(Total for Question 9 = 4 marks)

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

- iteration

- selection

- sequence

- variables

The use of .... allows a process to be repeated.

(Total for Question 10 = 1 mark)

11 State **one** reason for converting user input from a string to an integer.

....

....

(Total for Question 11 = 1 mark)

12 A linear search algorithm is used to search the string "computer" for the character Z.

Explain why the length of the string is needed in the linear search algorithm.

....

....

....

....

(Total for Question 12 = 2 marks)

13 Computers use binary to represent information.

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

(1)

- ☒ **A** 1

- ☒ **B** 1024

- ☒ **C** 1024×1024

- ☒ **D** $1024 \times 1024 \times 1024$

(b) Convert the denary integer 205 to 8-bit binary.

(c) Convert the 8-bit binary pattern 0100 0111 to denary.

(d) Complete this binary addition.

```
  0110
+0101
```

(e) A robot uses these binary program instructions.

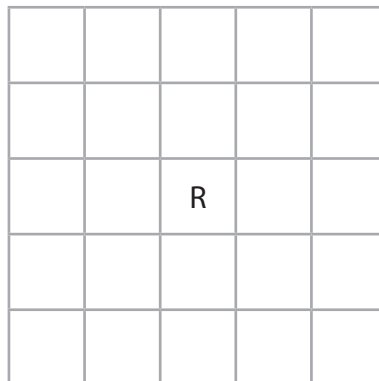|	
0001	POINT UP
0010	POINT DOWN
0011	POINT LEFT
0100	POINT RIGHT
0101	MOVE FORWARD ONE SQUARE
1010	MOVE BACKWARD ONE SQUARE

A programmer creates this set of program instructions for the robot.

0001 0101 0101 0100 1010

Draw on the grid to show the path the robot takes when following the program.

R shows the position of the robot at the start.

(3)

(Total for Question 13 = 8 marks)

14 Here is some Python code.

```
1   items=[1,2,3,6,7,8,3,4,6]
2
3   flag = True
4   while flag == True:
5       flag = False
6       for i in range(len(items)-1):
7           if items[i] > items[i+1]:
8               temp = items[i]
9               items[i] = items[i+1]
10              items[i+1] = temp
11              flag = True
12  print(items)
```

(a) Identify a line number where a **comparison operator** is used.

(1)

....

(b) Identify the line number where **selection** is used.

(1)

....

(c) Which **one** of these processes is carried out by the code?

(1)

☒ **A** Bubble sort

☒ **B** Data input

☒ **C** Linear search

☒ **D** String operation

(Total for Question 14 = 3 marks)

15 A user wants to enter secure information.

Give **one** reason why the user should check for unknown USB devices connected to the computer.

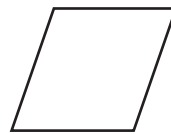...

....

(Total for Question 15 = 1 mark)

16 Give **one** benefit of using a network data speed of 1 Gbps rather than 1 Mbps.

....

....

(Total for Question 16 = 1 mark)

17 Give **one** reason why a switch is used on a network.

....

....

(Total for Question 17 = 1 mark)

18 Here are four shapes that will be used in a computer game.

The programmer wants to create a general model for the four shapes.

Size is one feature of the shapes.

State **one other** feature the programmer could include in the general model.

....

....

(Total for Question 18 = 1 mark)

19 Here is a subprogram that compares two words and displays a message.

```
1  def compare(word1,word2):
2     if len(word1) ................................................... len(word2):
3        longer = "The first"
4     .................................. len(...................................) > len(...................................):
5        longer = "The second"
6     else:
7        longer = "Neither"
8     print(..............................., "word has more letters.")
```

(a) Complete the subprogram by adding Python code on the dotted lines.

(4)

(b) One parameter used in the subprogram is `word1`

State the purpose of a parameter in a subprogram.

(1)

....

....

(c) Explain **one** reason why programmers use pre-existing subprograms in their code.

(2)

....

....

....

....

(Total for Question 19 = 7 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 A group of students is researching white rhinos for a presentation.

(a) Give **two** types of cloud-based service that allow the students to work together.

(2)

1 ....

2 ....

(b) The students have created this slide for a presentation about white rhinos.

Hello everyone. We are really pleased to be with you today and really pleased to do a presentation for you about white rhinos and what is being done to try and save them from disappearing from out in the wild places. They are really in danger from disappearing from all of the wild places because they have been hunted for many years. Some people think they have magical medicinal properties and they want to kill them for this. Others just want to hunt them because they like it.

We want to try and save them by making people aware of what is going on.

Our names are Bilal, Ann and John. We are all 14 years old and enjoy going to school.

We hope you will enjoy the presentation and learn all about white rhinos and help to try and save them.
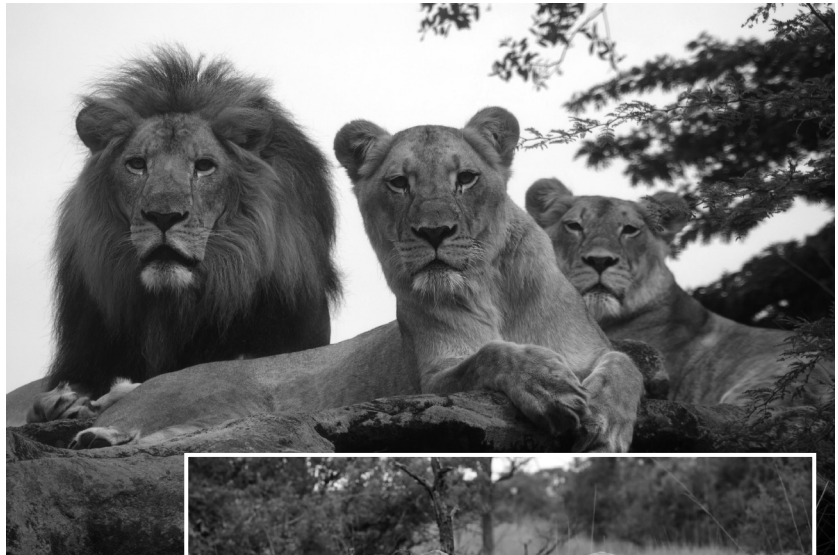
Give **two** reasons why the slide is not fit for purpose.

(2)

1 ....

2 ....

(Total for Question 20 = 4 marks)

21 Describe how a hyperlink is added to a webpage.

....

....

....

....

....

(Total for Question 21 = 2 marks)

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

- body

- foot

- head

- margin

Images must be placed in the .... of a webpage.

(Total for Question 22 = 1 mark)

23 Which **one** of these is a feature of web authoring software?

- ☒ **A** HTTP

- ☒ **B** VLOOKUP

- ☒ **C** WAP

- ☒ **D** WYSIWYG

(Total for Question 23 = 1 mark)

24 Word processing tools can be used to create documents.

(a) State **one** purpose of a memo.

(1)

....

....
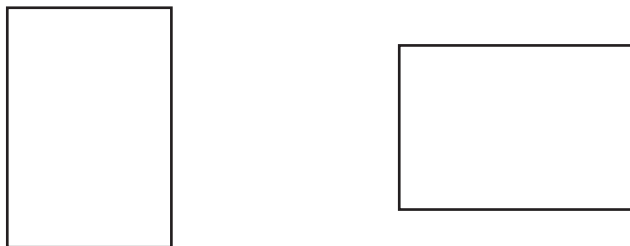
Turn over ▶

(b) Draw a circle around the image that shows a document page in portrait orientation.

(1)

(c) An author wants to start each chapter on a new page.

She uses the page break feature of her word processor.

Explain why this is a better choice than inserting blank lines.

(2)

....

....

....

....

(Total for Question 24 = 4 marks)

25 Graphics can be bitmap or vector.

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

- compressed

- cropped

- pixelated

- redrawn

(1)

If a bitmap image is enlarged, it may become ...., meaning it is less sharp.

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

- coordinates
- effects
- frequencies
- operators

(1)

Vector graphics use .... that can be recalculated when an image is resized.

(Total for Question 25 = 2 marks)

26 Customers in a restaurant use tablet computers to view the menu.

The restaurant uses presentation software to create the menu.

(a) State **two** features of presentation software that can be added to a slide to allow a customer to move to another slide.

(2)

1 ....

2 ....

(b) Each slide shows a single food item.

State **one other** piece of information the menu slide should include.

(1)

....

....

(Total for Question 26 = 3 marks)

27 A computer shop uses a database that has multiple tables.

Some data from the tables are shown here.

Model table

model_id	manufacturer_id	model_name	CPU_cores	RAM
compScotA	compScot	Alder	2	64
compScotE	compScot	Echo	4	32

Manufacturer table

manufacturer_id	name	city	telephone
compEng	Rossen	Manchester	01632960410
compScot	Pippin	Glasgow	01632960230

(a) Name **one** foreign key used in the database.

(1)

....

(b) Name **one** primary key used in the database.

(1)

....

(c) The shop manager wants to find models that have 32 GiB of RAM and more than 2 CPU cores.

Complete the query design that would do this.

(3)

.... = 32 .... CPU_cores ....

(Total for Question 27 = 5 marks)

28 Here is a chart.

Tree height (m)

Years

—— Series1
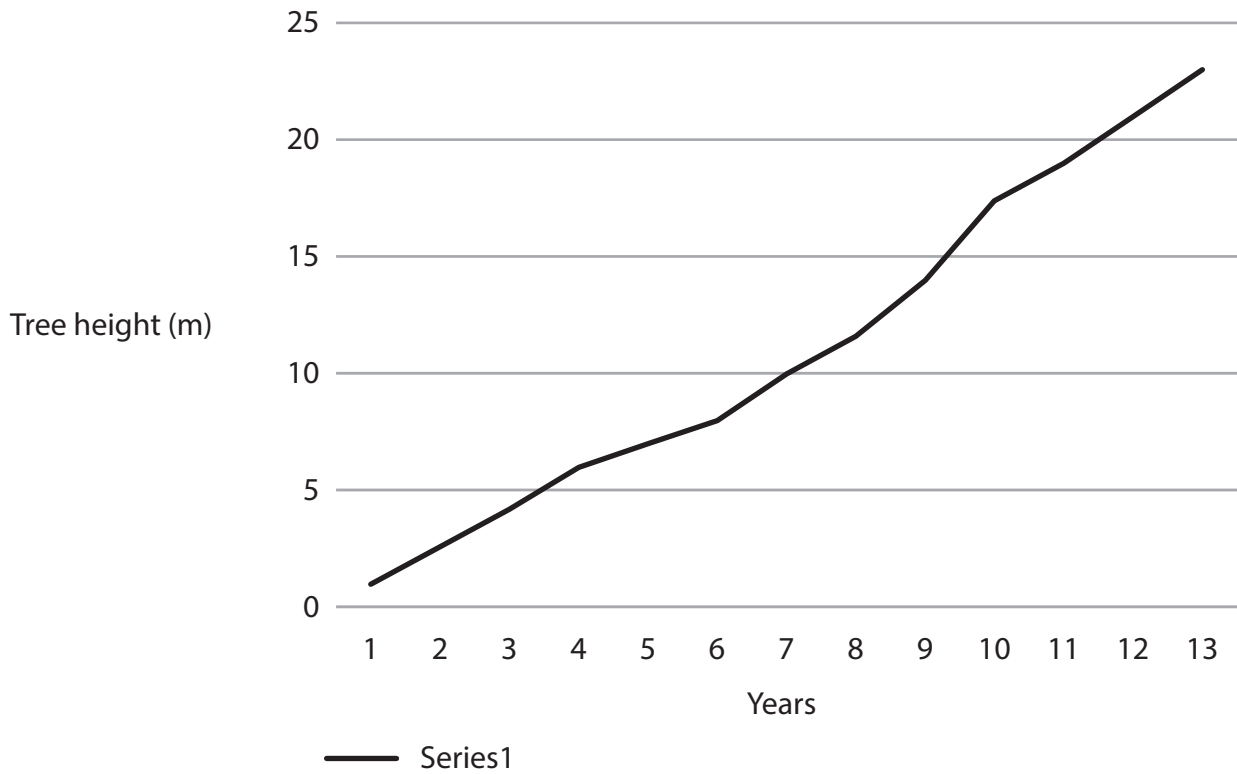
(a) Which **one** of these is **not** needed on the chart?

(1)

☒ **A** Axis labels

☒ **B** Axis values

☒ **C** Data points

☒ **D** Legend

(b) Give a title for the chart.

(1)

....

....

(c) Which **one** of these is the type of chart shown?

(1)

☒ **A** Bar

☒ **B** Column

☒ **C** Line

☒ **D** Scattergraph

(Total for Question 28 = 3 marks)

29 State **one** purpose of a spreadsheet.

....

(Total for Question 29 = 1 mark)

30 A spreadsheet contains marks from an English test.

	A	B	C
1	**English test marks**		
2	**Test date**	**Ann**	**Bilal**
3	10/01/2022	60	59
4	17/01/2022	75	63
5	24/01/2022	55	50
6	31/01/2022	53	55
7	07/02/2022	56	54
8	14/02/2022	64	70

(a) Complete the function needed to show the lowest mark for Ann.

(2)

=..(..)

(b) The spreadsheet contains a worksheet for each subject.

Explain why using a worksheet for each subject is better than having the information about all subjects on a single worksheet.

(2)

....

....

....

....

(Total for Question 30 = 4 marks)

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