Year 9

Autumn Assessment 2025

Computing

Time limit: 50 mins

No of Questions: 22

Total Marks: 46

Questions

1) What is the name of the building that stores your data on the Internet? Tick **ONE** (1 mark)

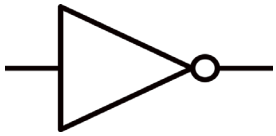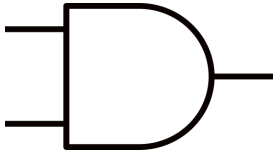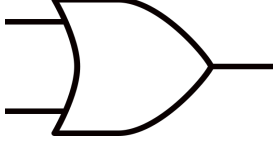|	A) Bit Warehouses
X	B) Data Centres
	C) Byte Vaults

2) Select **TWO benefits** of using Cloud Storage: Tick **TWO** (2 marks)

X	A) Allows you to access your data from any device
	B) Only works on a cloudy day
X	C) Can be used to back up your data
	D) Can be expensive to run

3) Select **TWO drawbacks** of using Cloud Storage: Tick **TWO** (2 marks)

	A) Does not work on a sunny day
	B) Can't upload video files
X	C) Requires an Internet connection
X	D) Difficult to move to another provider

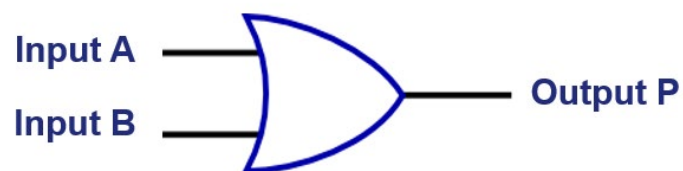4) Tick **ONE** box on each row to identify the correct Logic Gate (3 marks)

Logic Gates	AND Gate	OR Gate	NOT Gate
			X
	X		
		X	

5) Complete the Truth Table for the AND Logic Gate (2 marks)

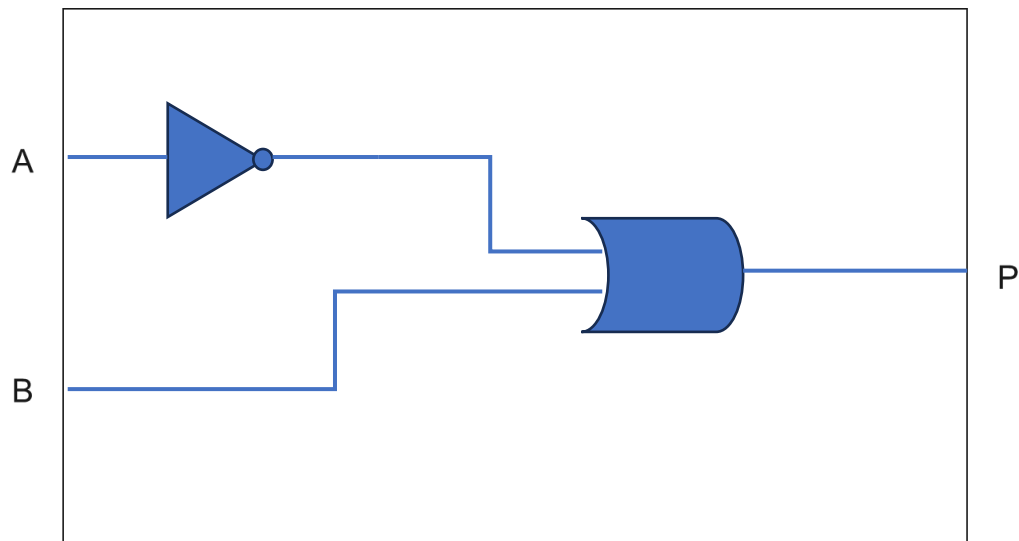| Input A	Input B	Output P
0	0	0
0	1	0
1	0	0
1	1	1

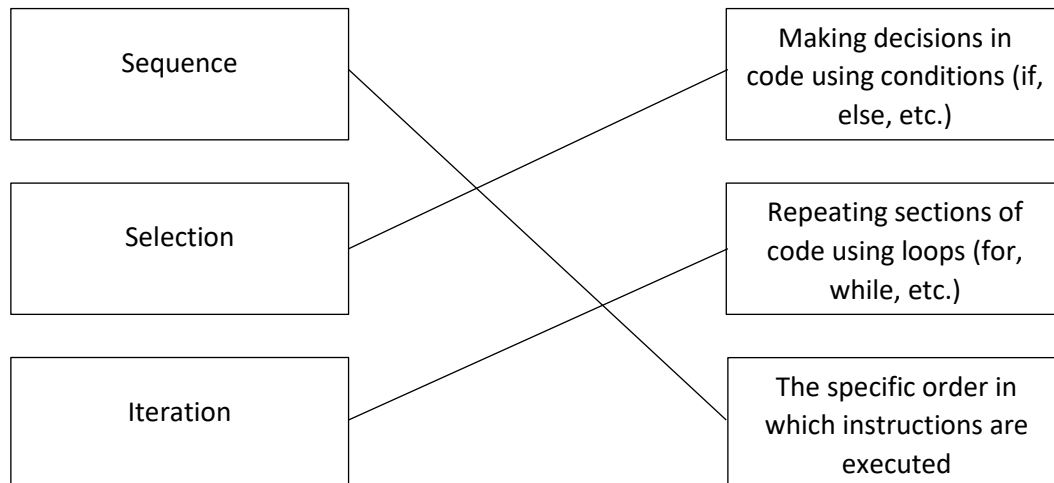6) Using the table below, identify the correct Boolean expression for the following logic gate. Tick **ONE** (1 mark)

	1) P = A and B
	2) P = A not B
X	3) P = A or B

7) In the space below, draw the Logic Gate diagram for the following Boolean Expression: (3 marks)

$$P = NOT\ A\ OR\ B$$

8) Using the diagram below, draw a line to match each key programming principle with the correct description. (3 marks)

Sequence		Making decisions in code using conditions (if, else, etc.)
Selection		Repeating sections of code using loops (for, while, etc.)
Iteration		The specific order in which instructions are executed

9) Using the table below, tick **ONE** box on **each row** to match the correct data type for each example. (3 marks)

Examples	Integer	Real / Float	String
"John Smith"			X
3.14		X	
67	X		

10) Using the table below, tick **ONE** box on **each row** to match the correct symbol for each logical comparison. (3 marks)

Examples	Greater than or equal	Not equal to	Less than or equal
!=		X	
<=			X
>=	X		

11) Following through the code below, write the correct output in the box provided. (1 mark)

```
1  age = 15
2  if age >= 18:
3      print("You can play the 18+ game.")
4  elif age >= 13:
5      print("You can play the teen game.")
6  else:
7      print("Stick to kids' games for now.")
```

Output: **You can play the teen game**

12) True or False, a **For** loop is a **Condition-controlled** Loop. Tick **ONE** (1 mark)

	True
X	False

13) True or False, a **While** loop is a **Condition-controlled** Loop. Tick **ONE** (1 mark)

X	True
	False

14) Using the table below, select the correct definition of a **While** loop. Tick **ONE** (1 mark)

	1) A While loop repeats until the condition is met
X	2) A While loop repeats while the condition is True
	3) A While loop repeats for a fixed number of times

15) Read the situations in the table below, select the correct type of loop to use for each. Tick **ONE** on **each row** (4 marks)

Situation	For loop	While loop
Repeating something exactly 5 times	X	
Asking for a correct password until it is entered		X
Printing every number in a list of 50 numbers	X	
Keep asking for their age until the user inputs a number over 18		X

16) Convert the following 4-bit binary value into Denary (1 mark)

1100

Answer: 12

17) Convert the following 8-bit binary value into Denary (2 marks)

11001011

Answer: 203

18) Convert the denary value 30 into 8-bit binary (2 marks)

Answer: 00011110

19) Convert the denary value 245 into 8-bit binary (2 marks)

Answer: 11110101

20) Complete the following 8-bit binary addition (3 marks)

0 0 0 0 1 0 1 1

0 1 1 1 1 0 0 0 +

1 0 0 0 0 0 1 1

1 1 1 1

- 1 mark for first half of sum line
- 1 mark for second half of sum line
- 1 mark for correct carry line

21) Complete the following 8-bit binary addition (3 marks)

```
  1 0 0 0 1 0 1 1
  1 1 1 1 1 0 0 0  +
1 1 0 0 0 0 0 1 1
  1 1 1 1
```

- 1 mark for first half of sum line
- 1 mark for second half of sum line INCLUDING OVERFLOW
- 1 mark for correct carry line

22) Explain the problem with the result of the above addition (2 marks)

- Caused an overflow
- Sum will not fit within space available
- Overflow bit is ignored
- Can cause inaccuracy/imprecision