COMPUTER SCIENCE
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8.1.1 Memory

❑ I can name the two types of memory in a computer system.

_____

_____

❑ I can define the term memory.

APDCOSITOP

_____

_____

❑ I can describe the differences between RAM & ROM.

Difference 1

_____
_____

Difference 2

_____
_____

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8.1.2 Storage

❑ I can name the three categories of secondary storage.

1. _____ e.g. _____
2. _____ e.g. _____
3. _____ e.g. _____

❑ I can define the term secondary storage.

N-VHWDISWNIU

_____

_____

❑ I can identify the differences and similarities between memory and storage.

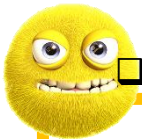|	RAM	Secondary Storage
Volatile		
Editable		
Holds data that is open/in use		
Holds data that is not in use		
Non-volatile		
Can be accessed by the CPU		
High capacity		

☐ I can state the 6 characteristics of secondary storage

SPEED

heavy

☐ I can describe the HDD using each characteristic.

1. Cost – How much money a device is to buy.
2. _____
3. _____
4. _____
5. _____
6. _____

☐ I can choose the most suitable storage device for given scenarios.

Apu has a handheld e-book reader that allows him to store and read electronic books.

Types of secondary storage devices are magnetic, optical or solid state.

(i)   State which type of storage is most suitable for storing the electronic books inside the e-book reader.

.... [1]

(ii) Explain **one** reason why this type of storage is the most suitable.

....
....
....
.... [2]

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8.2.1 Binary to Denary

❑ I can convert simple 4 bit **binary** numbers into **denary** numbers independently.

1010 | | | | | =   **1100** | | | | | =

0111 | | | | | =   **1110** | | | | | =

❑ I can convert **binary** numbers to **denary** numbers.

1011 1001 | | | | | | | | | =

0111 1011 | | | | | | | | | =

❑ I can convert 8+ bit binary numbers to denary numbers.

1 0011 0110 | 256 | | | | | | | | =

1 1001 1001 | 256 | | | | | | | | =

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8.2.2 Denary to binary

❑ I can convert simple denary (0-15) numbers to binary numbers independently.

13 | | | | **2** | | | |

7 | | | | **11** | | | |

❑ I can convert denary numbers to binary numbers.

75 | | | | | | | |

138 | | | | | | | |

❑ I can convert denary (255+) numbers to binary numbers.

300 | 256 | | | | | | |

407 | 256 | | | | | | |

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8.2.5 Binary Addition

❑ I explain WHY 1+1 is 10 and 1+ 1+ 1 = 11 in binary.

1 + 1 in binary = 10 because_____

_____

1+1+1 in binary is 11 because _____

_____

❑ I can add 4 bit binary numbers together.

+				

+				

+				

❑ I can add 8 bit binary numbers together and explain what an overflow error is.

An overflow error occurs when… _____

_____

+	1	0	1	1	0	1	1	0
	1	1	1	1	1	1	0	1

+	0	1	1	0	0	1	0	1
	0	1	0	1	0	1	1	0

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1 Identify the following logic gates.

A —[ ]— Q ....

A —[>o]— Q ....

A —[ ]— Q ....
B
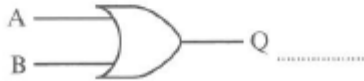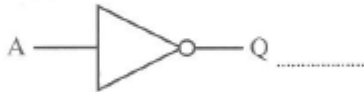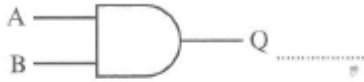
(3 marks)

Fill in the appropriate values in the truth table shown below for the following logic gate diagram.
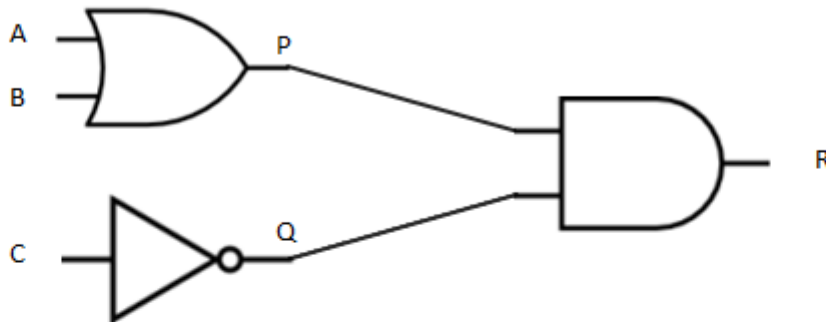
A	B	C	P	Q	R
0	0	0			
0	0	1			
0	1	0			
0	1	1			
1	0	0			
1	0	1			
1	1	0			
1	1	1			

[6]