Logic Gates

1. Complete the table below by drawing the logic gate symbols. (3)

Gate	Symbol
NOT	
AND	
OR	

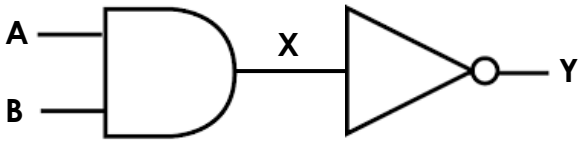
2. Complete the truth table below for a NOT gate. (2)

INPUT	OUTPUT

3. Complete the truth table below for an OR gate. (3)

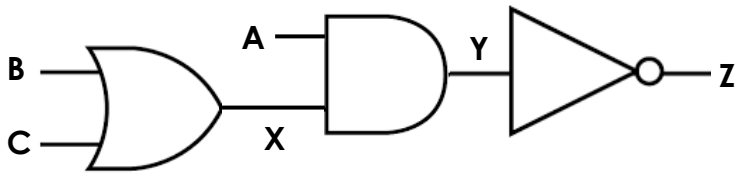
OR		
INPUT 1	**INPUT 2**	**OUTPUT**

4. Complete the truth table for the logic diagram shown below. (3)



A	B	X	Y

5. Complete the truth table for the logic diagram shown below. (5)



A	B	C	X	Y	Z

6. Construct a logic diagram to represent the logic of the scenario below. Use the symbols T, H, V and M. (2)

- A greenhouse climate control system to control the opening of a vent in the roof.
- A temperature (T) sensor is used to monitor the temperature inside the greenhouse.
- A humidity (H) is used to monitor the humidity inside the greenhouse.
- A manual switch (M) is used to manually open the vent.
- The vent (V) is opened is either the temperature (T) or the humidity (H) are outside set limits or if the manual switch (M) has been turned on.

7. Construct a logic diagram to represent the logic of the scenario below. Use the symbols W, M, S and A. (3)

- A house has a security system fitted.
- A window (W) is used to detect if any of the windows have been opened.
- A movement sensor (M) is used to detect if there is any movement inside the house.
- The activation switch (S) is used to turn the alarm system on.
- The alarm (A) is sounded if the alarm system is on and either the one of the windows (W) have been opened or movement (M) is detected inside the house.

