Draw the logic gate symbol and state the Boolean expression that represents the NOR gate. (2 marks)

Logic gate	Logic statement

Show the truth table for a NAND gate. (2 marks)

Why are NAND gates referred to as universal gates? (1 mark)

Explain how the full adder works. (3 marks)

Explain how you could build a circuit to add N bits using full adders (2 marks)

Identify the inputs of a d-type flip-flop (2 marks)

Simplify the boolean expression A.B+A+B (2 marks)

Simplify the expression (A + B).((B.C)+(C.B)) (2 marks)

Simplify the expression $\overline{\overline{A}+\overline{(B.A)}}$ (4 marks)