Objective

Understand various logic gates

1. Complete questions below a, b, c below

(a) Draw a clearly labelled gate symbol, detail the functional notation, and create a truth table for the following logic functions

   (i) XOR

   (4 marks)

   (ii) NOR

   (4 marks)

(b) Draw a transistor level circuit diagram and truth table for a AND Gate which consists of NAND and NOT gates

   (5 marks)

(c) Draw a transistor level circuit diagram and truth table for a OR Gate which consists of NOR and NOT gates

   (6 marks)

2. Complete questions below

(c) Draw a transistor level circuit diagram and truth table for a **XOR Gate** which consists of **NOR** and **NOT** gates
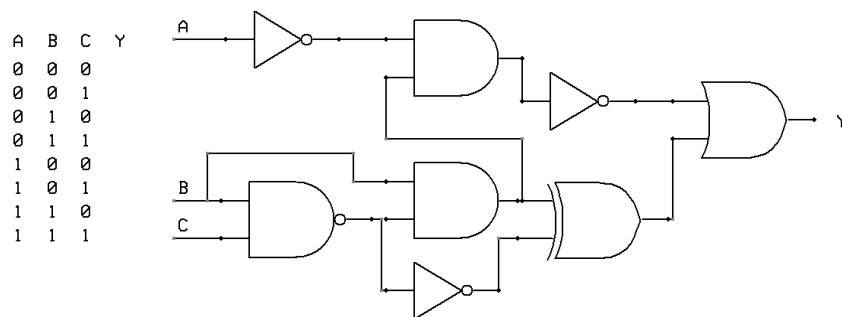
(6 marks)

(d) Draw a logic gate circuit diagram and truth table for a **Half Adder** using only **NAND, OR** and **AND** gates

(14 marks)

3. Complete questions below

Construct the following Circuit using NAND and NOT Gates and complete Truth Tables

A	B	C	Y
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Complete Questions in Logbook

Student Name		Student Number	
Date			
Group	A / B		