

Name: _____

Binary System/Logic Gate Test (Out of 68 Marks)

1. Convert all of the following decimal numbers into binary, **show all work:** (12)

a) 231

b) 543

c) 699

Answer: _____ (2) Answer: _____ (2) Answer: _____ (2)

d) 45

e) 75

d) 134

Answer: _____ (2) Answer: _____ (2) Answer: _____ (2)

2. Convert the following binary numbers into decimal, **show all work:** (12):

a) 101011

b) 1110011

Answer: _____ (3)

Answer: _____ (3)

c) 11101111

d) 11101111

Answer: _____ (3)

Answer: _____ (3)

3. Binary Addition-Add up each of the pairs of binary digits, **show all your work:** (12)

a) (3)

$$\begin{array}{r} 1101 \\ +1001 \\ \hline \end{array}$$

b) (3)

$$\begin{array}{r} 1101 \\ +1101 \\ \hline \end{array}$$

b) (3)

$$\begin{array}{r} 1110 \\ +1110 \\ \hline \end{array}$$

c) (3)

$$\begin{array}{r} 101 \\ +101 \\ \hline \end{array}$$

4. Binary Subtraction-Subtract the following pairs of binary numbers, **show all your work:** (12)

a) (3)

$$\begin{array}{r} 1101 \\ -1001 \\ \hline \end{array}$$

b) (3)

$$\begin{array}{r} 1110 \\ -1 \\ \hline \end{array}$$

c) (3)

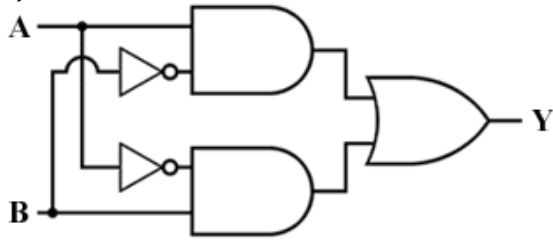
$$\begin{array}{r} 1110 \\ -1110 \\ \hline \end{array}$$

d) (3)

$$\begin{array}{r} 1101 \\ -1011 \\ \hline \end{array}$$

5. Give the names and make a Truth Table for each of the following Gates: (20)

a)



Name: _____

Truth Table:

A	B	Y

(5)

b)



Name: _____

Truth Table:

A	B	Y

(5)

c)



Name: _____

Truth Table:

A	B	Y

(5)

d)



Name: _____

Truth Table:

A	B	Y

