Name _____ Date _____

Part 1; Q1-6 _____ of 102 Part 2; Q 7-10 _____ of 87

Digital Electronics
Exam 1

1. **Convert the following to binary.** ***(2 points each)***

19 _____ **12** _____ **6** _____ **16** _____

2. **Convert the following to decimal.** ***(2 points each)***

11011 _____ **1101** _____ **11000** _____ **11010** _____

3. **Complete each of the items in the table.** ***(5 points each)***

	AND	OR	NOT
Switch Based Circuit			
Boolean Expression			
Truth Table	INPUTS A B | OUTPUT L	INPUTS A B | OUTPUT L	INPUT A | OUTPUT L
Symbol			

4. **Alongside each acronym, place the words that each stands for.** ***(2 points each)***

NC _____

CMOS _____

TTL _____

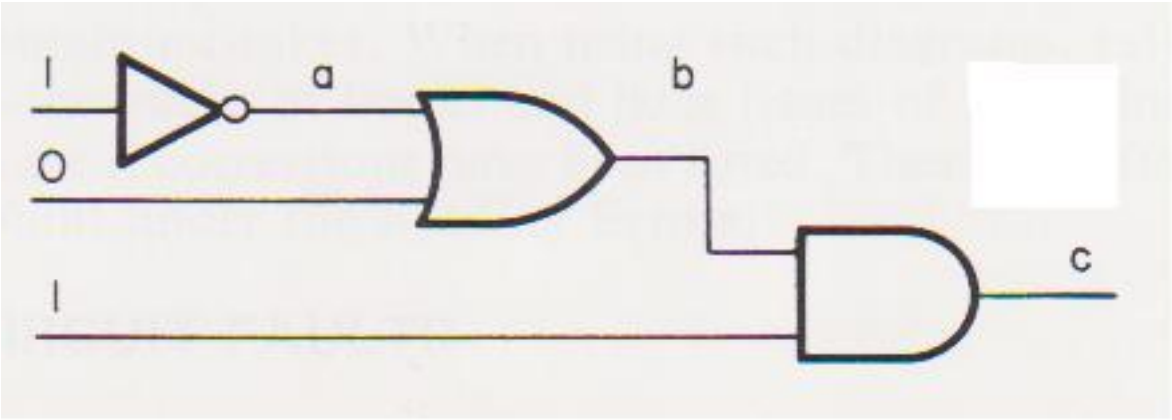
IC _____

LSB _____

5. Number the binary digits on the set of lines immediately beneath each of the binary digits. On the line beneath that, indicate the place value of that digit.
(5 points each part, 10 points total)

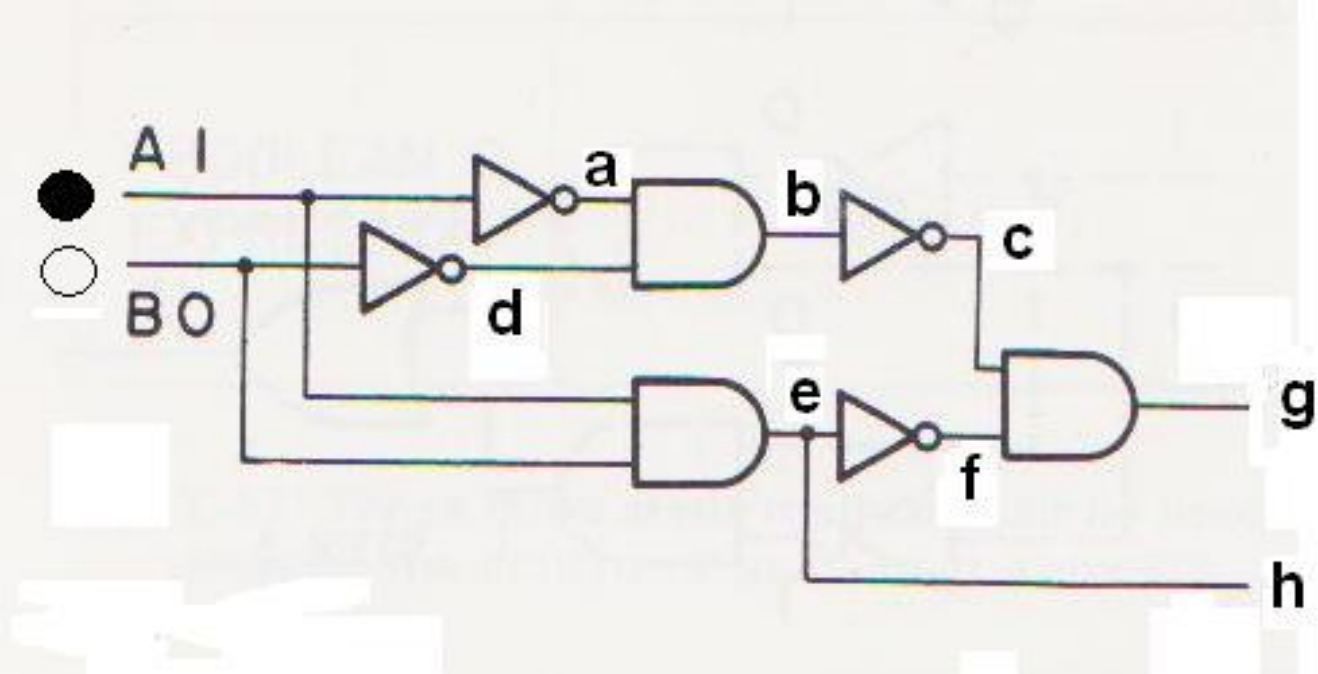
1	0	1	1	0	0	1	1	0	1
____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____

6 Record the output that will occur at points a, b and c given the inputs shown.
(2 points each)



a = _____ b = _____ c = _____

7. Fill in the value that will be present at each of the points indicated. ***(5 points each)***

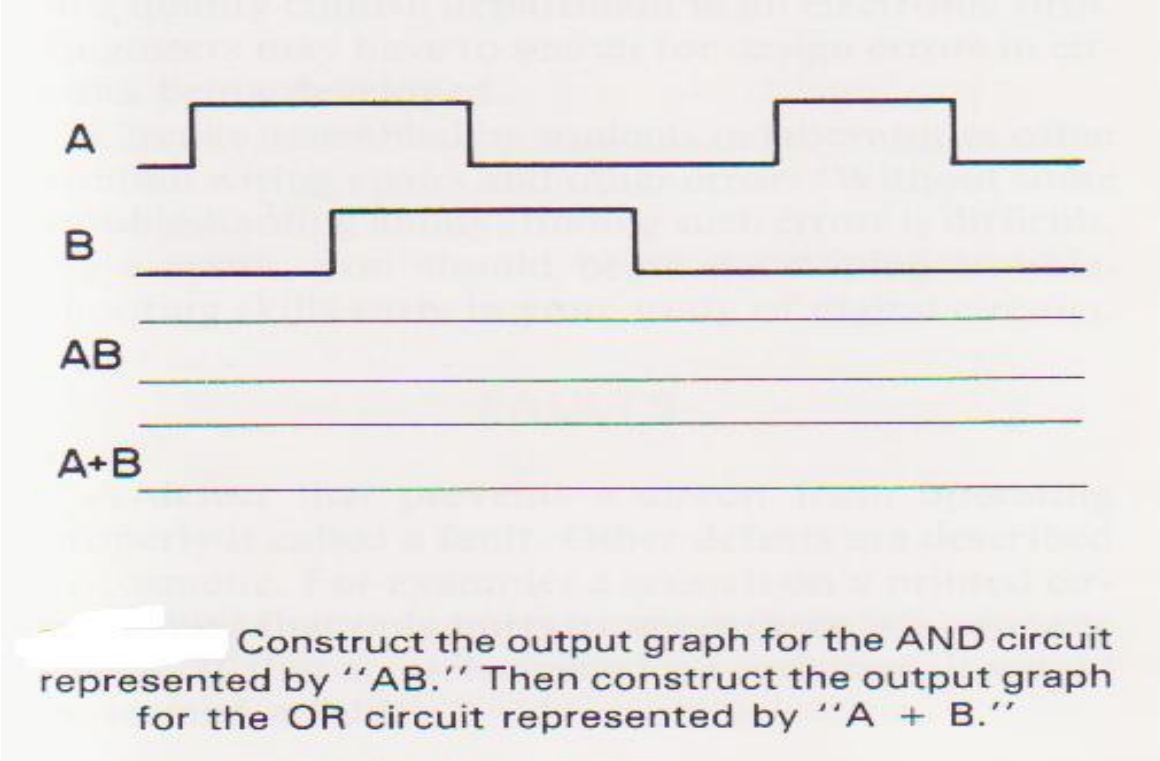


a. _____ d. _____ g. _____

b. _____ e. _____ h. _____

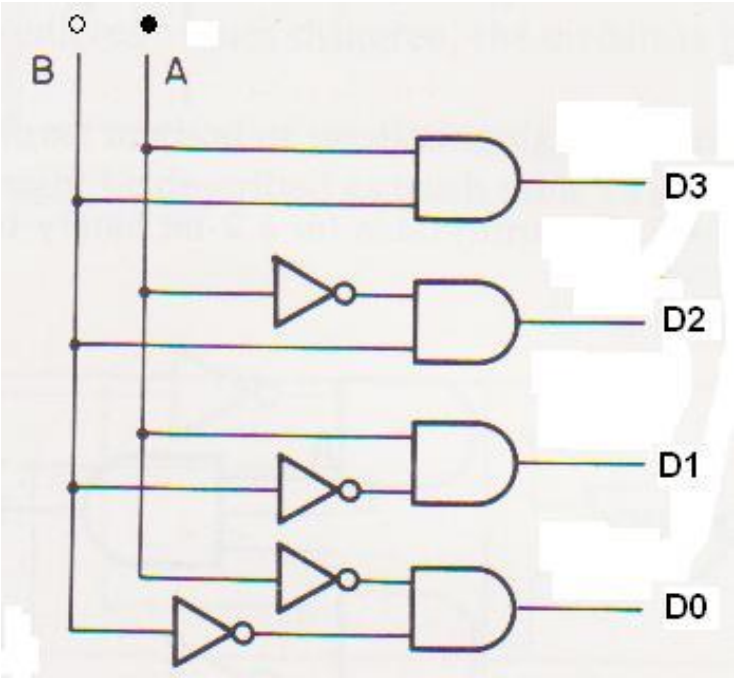
c. _____ f. _____

8. ***(10 points each)***



Construct the output graph for the AND circuit represented by ''AB.'' Then construct the output graph for the OR circuit represented by ''A + B.''

9. Record the output for D0, D1, D2, and D3. What decimal value is represented by these binary digits?



Decimal Value _____ ***(5 points)***

D3 = _____ ***(3 points)***

D2 = _____ ***(3 points)***

D1 = _____ ***(3 points)***

D0 = _____ ***(3 points)***

10. Write the Boolean expressions for the logic diagram shown in problem 7. ***(5 points each)***