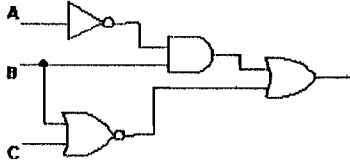


1. Simple Answer Questions: (40%)

(1) Convert the following decimal number to a number in base 13:

297

(2) Give the Boolean expression for the following circuit diagram.



(3) If a processor is a 16-bit machine, how many different memory locations can it distinguish?

(4) What color does an RGB value of (0,0,0) represent?

(5) What is an assignment statement in a computer program?

(6) A stack is a LIFO structure. What does LIFO stand for?

(7) How many comparisons does it take using a binary search to find the value 8 or determine that the value is not in the list?

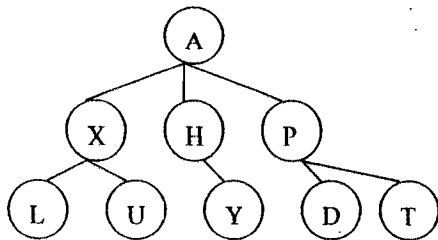
<i>length</i>	<i>list</i>	[0]	[1]	[2]	[3]	[4]	[5]
6		1	9	11	12	17	23

(8) What is round robin CPU scheduling?

(9) How do messages flow in a bus topology?

(10) What is SMTP?

2. Given the adjacency matrix representation of the following graph. Give both the depth-first traversal and the breadth-first traversal of the given graph starting from vertex A. (15%)



3. Use the bubble sort algorithm to sort the following items in alphabetical order. Show the details. (15%)

[0]	[1]	[2]	[3]	[4]
Bob	Mary	John	Alice	Ted

4. In a relational database, how the data is stored? And what is a *key*? Also, what is an *ER* diagram? Explain the use of an ER diagram. Give examples if necessary. (15%)

5. Explain and compare the three configurations used to administer LANs: the ring topology, the star topology, and the bus topology. (15%)