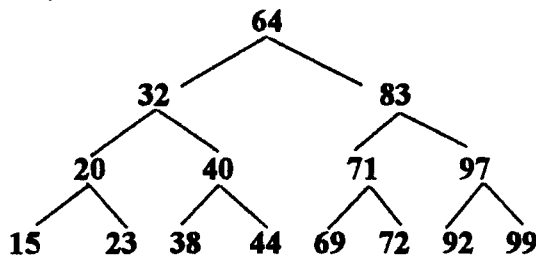


1. Terminologies Description (Please describe in detail) : (20%)

- (a.) Asymmetric Digital Subscriber Line-ADSL.
- (b.) Domain Name Server.
- (c.) Proxy Server.
- (d.) Access Point.
- (e.) Relational Databases Management System.

2. Please describe the difference between 1's complement and 2's complement schemes of binary numbers? Please use a 4-digit binary number to demo the difference. (20%)

3. A binary search tree looks like the follow: (Total 25%: a:5%, b:10%, c:10%)



- a. Please give the results of inorder, preorder, and postorder traversals of the binary search tree. (Write out the sequence of numbers visited).
- b. Design a data structure and a function *insertnode* that can be used to establish the tree.
- c. Design the recursive version of the inorder, preorder, and postorder traversal functions for the functions in a.

4. How Java programming language achieves portability, i.e. Write Once, Run Anywhere (WORA)? What is the price paid for it? (20%)

5. What kind of technology is used to fill the speed gap between modern CPU and Memory modules ? (15%)