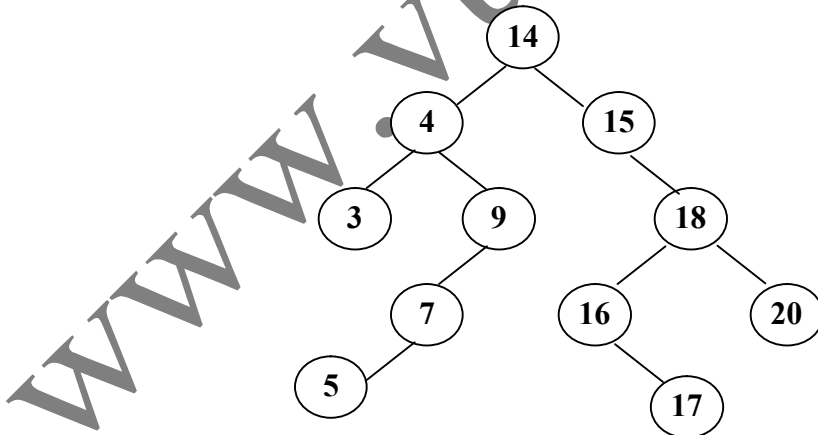


CS301 DATA STRUCTURE
Mid Term Examination - May 2010

16 MCQs of one number each. All MCQs less one & long Questions recalled and are reproduced here.

1. Addition of new items in stack make the pointer ----- by 2 :-
 - a. Increment, bits
 - b. Increment, bytes
 - c. Decrement, bits
 - d. Decrement, bytes**
2. Next item in a linked list is known as:-
 - a. Index
 - b. Item
 - c. Node**
 - d. Child
3. What will be the postfix notation of $5+6/2$.
 - a. $56+/2$
 - b. $562+/\$
 - c. $562+/\$**
 - d. $5+62/\$
4. In an AVL tree to delete a parent with two childs in a straight line following rotations will be required:-
 - a. Single
 - b. Double**
 - c. Triple
 - d. None.
5. To check the depth of an AVL tree following time will be taken:-
 - a. $1.66 \log_2 n$
 - b. $1.44 \log_2 n$**
 - c. $\log_2 (n+1)-1$
 - d. $1.66 \log_2 n (n+1)$
6. BST is a _____ Structure:-
 - a. Linear
 - b. Non Linear**
 - c. Circular
 - d. None of Above
7. After creation of an array:-
 - a. Size can be increase but can not be decreased.
 - b. Size can be decreased but can not be increased.
 - c. Size can neither be increased nor be decreased.**
 - d. Size can be increased and can also be decreased.
8. Each node in a BST has _____ Pointers:-
 - a. 1
 - b. 2**
 - c. 3
 - d. 4
9. Highest Operators Precedence is of the following operator:-
 - a. Plus
 - b. Minus
 - c. Multiply
 - d. Exponentiation**
10. Following are the linear data structures:-
 - a. Stacks
 - b. Queues
 - c. Both a & b**
 - d. None of the above
11. Each entry which points to a null value in a Singly Linked List is known as:-

- a. Node
 - b. First Node
 - c. Last Node**
 - d. Head Node
12. Non recursive calls are faster than the Recursive calls.
- a. True**
 - b. False
13. Tree data structure is a _____
- a. Linear
 - b. Non Linear**
 - c. Circular
 - d. None of Above
14. What will be the valid postfix notation of $A+B*C-D$
- a. $ABC+*D-$
 - b. $ABC*+D-$**
 - c. $ABCD+-*$
 - d. $AB+D*C$
15. When an operator is used in between two operands this is which type of notation
- a. Prefix
 - b. Postfix
 - c. Infix**
 - d. None of the Above
16. Give two uses of Queues? 2 Marks
17. Define Reference Variable, Dangling Reference & Const 3 Marks
18. What is the use of Reference Variable, Give example? 3 Marks
19. Write does the following instruction do? 5 Marks
- a. `Int x;`
`Int* y = &x;`
 - b. `Int x;`
`Int &y = &x;`
 - c. `Int x;`
`Int y = x;`
20. See the following BST and give its in order traversal. 5 Marks



In Order Traversal: 3, 4, 5, 7, 9, 14, 15, 16, 17, 18, 20