

S.B. Roll No.....

**DATA STRUCTURE USING C**  
**4<sup>th</sup> Exam/0622/2362/Comp/IT/CSE/Nov'16**

**Duration: 3 Hrs.**

**M. Marks: 75**

**SECTION – A**

**Q.1 Do as directed:**

**10x1.5=15**

- a. FIFO stands for \_\_\_\_\_.
- b. BST stands for \_\_\_\_\_.
- c. Nodes that do not have any children are called \_\_\_\_\_ nodes.
- d. Deletion operation in stack is known as \_\_\_\_\_.
- e. The tree is \_\_\_\_\_ data structure.
- f. An array is collection of \_\_\_\_\_ data items
- g. Linked list contains two pieces of information: data and \_\_\_\_\_.
- h. A stack is represented in computer by using \_\_\_\_\_.
- i. Prefix notation of  $A - B / C$  is \_\_\_\_\_.
- j. Define algorithm. .

**SECTION-B**

**Q :2 Attempt any Six questions.**

**5x6=30**

- a. Differentiate between primitive and non-primitive data structure.
- b. Write PUSH and POP algorithm on Stacks.
- c. What is preorder, Postorder and Inorder?
- d. What is recursion? Write a program in 'C' to generate Fibonacci series using recursion..
- e. Explain the concept of array with the help of suitable example.
- f. What are different types of linked lists?
- g. Explain the concept of dynamic memory allocation?
- h. What is variable? Distinguish between local and global variable.
- i. Explain any one searching technique with example.

**SECTION-C**

**Q :3 : Attempt any three questions.**

**3x10=30**

- i. Write an algorithm for insertion of an element into a linked list.
- ii. Define Binary Search Tree (BST) and operation associated with it.
- iii. Write the algorithm for Bubble sort. Explain it with suitable example
- iv. Explain following.
  - (a) Sequential search
  - (b) Circular queue