4th Semester / Comp. Engg.

Subject : Data Structures using C

Section - A

Ans. 2

Searching :

Searching is a process of finding important chunks of data to from all the data available. For example - Searching the number 62 from an array, $a[5] = (61, 62, 63, 64, 65)$.

Some searching methods are -
• Sequential Search or linear Search
• Binary Search

Ans - 1

Similar Binary Tree :

Whenever two binary trees are of same length and same number of nodes then those trees are known as similar binary tree.

Copies of Binary Tree :

Two binary trees are called copies of binary tree when they have exact same structure and same hierarchical order and nodes.

Ans 4 four commonly used sorting techniques are :

i) Selection Sort
ii) Quick Sort
iii) Heap Sort
iv) Tournament
iv) Merge Sort

Ans-5 Traversing of a Tree -
It is the process of visiting or reviewing the subtrees and root of a tree. Tree Traversal ~~can~~ be of three types :

i) Preorder Traversal
ii) Inorder Traversal
iii) Post order Traversal

Ans-6 Sorting :
Sorting is a process of arranging keys in ascending or descending order from a set of data.
* Sorting is of different types, like :
• Quick Sort   • Merge Sort
• Selection Sort   • Tournement Sort
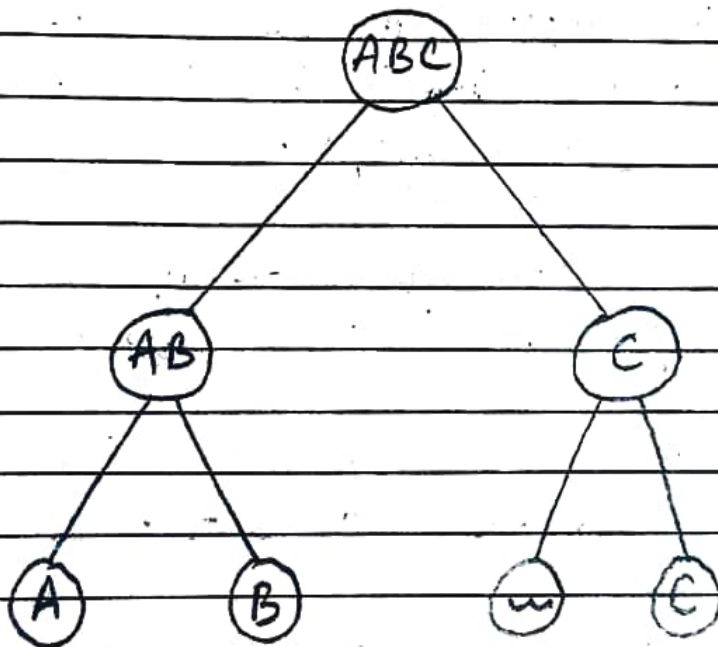- Insertion Sort   - Heap Sort
, etc.

Ans-3

BINARY SEARCH TREE :

Binary Search tree is a binary tree in which there are two ways, either you go to left subtree or the right subtree.

By using this, we can-solve many problems.

EXAMPLE -

In the given example, the binary search tree is used. It seems to be a binary tree but it is a binary search tree. It consist of a set

ABC in the root node.

If we want to search for A (data) using this then first we go to the root node (ABC) and then to the left subtree which contain AB and the into AB we will find A there.

⇒ The operations associated with binary search tree are :

a) Creating:

The first is creating a binary search tree. To create a binary seach tree we use a function called INSERT Insert, it creates a new node with the data value provided to it, followed by the remaining steps.

b) Searching: We can use binary seach tree to seach for required - items.

c) Deletion: We can use this, to delete some data from data set.

d) Insertion: We can insert new data into a new node by using binary seach tree.