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**SVIS 317 A-2K13**

**B.Sc. VIth Semester Degree Examination**

**Computer Science**

**(Data Structure Using C++)**

**Paper - CS - 601**

Time : 3 Hours

Maximum Marks : 80

**Section - A**

**I. Answer all questions:**

**(15×1= 15)**

- 1) What are the classifications of classic data structures?
- 2) Define one - dimensional array?
- 3) What is Linked List?
- 4) FIFO stands for?
- 5) What are the kinds of Queues?
- 6) Define Tree?
- 7) Define Full binary Tree?
- 8) Give an example of stack?
- 9) What is Hash key?
- 10) Deque may be pronounced as?
- 11) Which is the one-way list?
- 12) What is internal sort?
- 13) Define Null set?
- 14) Define Intersection of sets?
- 15) What is Sorting?



Section - B

II. Answer any five questions:

(5×5= 25)

- 16) Write an algorithm to insert an element in an array
- 17) Write an algorithm to search for an element in a single linked list
- 18) Write a short note on circular Queue.
- 19) Construct a binary - tree whose Traversals are as follows.

In order:  $n_1$   $n_2$   $n_3$   $n_4$   $n_5$   $n_6$   $n_7$   $n_8$   $n_9$

Post order:  $n_1$   $n_3$   $n_5$   $n_4$   $n_2$   $n_8$   $n_7$   $n_9$   $n_6$

- 20) What is Heap tree? Explain it's representation
- 21) Write a note on Binary search.
- 22) Explain Hash Table representation of set.

Section - C

III. Answer any four questions.

(4×10= 40)

- 23) Why stack is called as LIFO data structure? Explain with diagram.
- 24) Write an algorithm, Flow chart & c++ program to illustrate selection sort.
- 25) Explain linear search with linked list.
- 26) Write an algorithm to convert infix to postfix
- 27) Explain Merge sort with an example.
- 28) Write an algorithm for Fibonacci search.