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SVIS-324 A-19
B.Sc. VI Semester Degree Examination
COMPUTER SCIENCE
Data Structure Using C++
Paper - 601
(New)

Time : 3 Hours   Maximum Marks : 80

SECTION-A

I.   Answer **ALL** the questions: (15×1=15)

1.   Define data structure.

2.   List various operations that can perform on an array.

3.   What is column major order matrix?

4.   Define linked list.

5.   What is memory bank?

6.   Define circular linked list.

7.   What are the applications of linked list?

8.   List operations on stack.

9.   Define priority queue.

10. Define node of a tree.

11. Define union of sets.

12. What is Hash key?

13. What is external sorting?

14. What is null pointer?

15. What is merge sort?

SECTION-B

II. Answer any **FIVE** questions.   (5×5=25)

16. Explain various operations on data structure.

17. Explain classification of data structure.

18. Write an algorithm to search KEY element in an array.

19. Convert the following arithmetic expression in to postfix notation.

$(A+B) \cap C - (D*E)/F$.

20. Write an algorithm to merge two single linked lists in to one list.

21. What are the types of queue? Explain any one briefly.

22. Construct a binary tree whose traversal are

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

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

SECTION-C

III. Answer any **FOUR** Questions: (4×10=40)

23. What is double linked list? Explain insertion of a node at any position in the list.

24. Why queue is called FIFO data structure? Explain array representation of queue.

25. Explain merge sort with an example. http://www.karnatakastudy.com

26. Write an algorithm to insert a node in a binary tree.

27. Explain Deque, Write an algorithm to insert an item at front & end of Deque.

28. Write an algorithm Fibonacci search.