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SVIS- 315 A-17
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** the following questions. **(15 × 1 = 15)**

1) What is a linear array?
2) Why do we need linked list?
3) List the different types of queue.
4) What is full binary tree?
5) FIFO stands for.
6) What do you mean by searching?
7) When do you get Queue - empty message?
8) Distinguish between a single - linked list and double linked list.
9) What are the operations of sets?
10) Mention different types of Band matrices?
11) What is quick sort?
12) Define null pointer.
13) Why do you need a double ended queue?
14) What is a primitive data structure? Give example.
15) What is POP?

SECTION - B

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

16) Write an algorithm to delete a node from a single linked list at the front and end.

17) Convert the following arithmetic expression into postfix notation

(A+B) ∧ C – (D*E)/F.

18) What is Queue? Explain types of queues.

19) Explain different operations on stack.

20) Write a note on binary search tree.

21) Explain any two types of uniform hash functions.

22) Explain with example memory representation of Upper-Triangular matrix.

SECTION- C

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

23) What are the different operations can perform on linear arrays?

24) Explain with algorithm different types of inserting a node in a single linked list.

25) Explain with algorithm for ENQUEUE and DEQUEUE.

26) Write a C++ program to sort the numbers using merge sort.

27) What is traversal of a binary tree? Explain the following with figure

i) In - order

ii) Pre-order traversal of a binary tree

28) Write an algorithm Fibonacci Search.

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