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**DEPARTMENT OF BBA [COMPUTER APPLICATION]**

**Question Bank**

**Name of Subject – Data Structure**

**Q Solve the following question**

1. What is self-referential structure?

2. How to measure performance of an algorithm?

3. What is polynomial? How is it differences from structure?

4. What are the different types of graph?

5. What is balance factor? How is it calculated?

6. What are the applications of stack?

7. What are Abstract Data types?

8. List out different types of tree.

9. List out different types of data structures.

10. What is priority queue ?

11. What is Self Referencial Structure ?

12. What is spanning tree ?

13. What is sorting ?State the techniques of sorting.

14. What are the applications of queue ?

15. What is Adjacency Matrix ?

16. What is Space and Time Complexity ?

 17. What are the advantages of linked list over an array ?

18. Difference between array and structure.

 19. What is non-primitive data structure ?

 20. What is Polynomial ? How is it represented ?

21. What is Self Referential structure ?

22. What is efficiency of linear search method ?

23. What is difference between Binary Tree and Binary Search Tree ?

 24. What are the different types of data structures ?

25. What are the applications of queue ?

26. What is almost complete binary tree ?

 27. What is Double Ended Queue ?

28. State the types of graph.

 29. What is the use of (&) address operator and Dereferencing (\*) operator ?

30. What is Pointer ? What are the operations we can perform on the pointer ?

31. State the types of graph.

 32. Define Data Structure.

33. How to measure performance of an Algorithm.

 34. How to calculate count of Best, Worst and Average case ?

35. What is Ancestor of Node ?

36. What is ADT for an array ?

37. What is searching ?

38. What are the operations we can perform on queue ?

 39. State the difference between Stack and Linked List.

40. What is Pointer to Pointer ?

 41. Define the following terms :

42. Balance Factor

43. Leaf Node

 44. Degree of Node

45. Cyclic Graph

46. Write a function to sort given Singly Linked List.

47. Explain different types of Dynamic Memory Allocation Functions.

48. Explain Kruskal’s algorithm for minimal spanning tree.

49. Write an algorithm for evaluation of Postfix Expression.

50. Write a function to delete last node from Singly Linked List.

51. Sort the following data by using quick sort techniques : 50.48, 29, 8, 59, 72, 88, 34, 47

52. What is Doubly Circular Linked List ? Explain its node structure.

53. Write a function to display Singly Linked List in reverse order.

54. Explain Binary search method with an example.

55. Explain Insertion sort technique with an example.

51. What is Graph ? Explain its representation techniques in detail.

52. Write a function to remove First Node singly linked list and add it at the end of linked list.

55.Sort the following data by using selection sort techniques : 55.45, 85, 96, 78, 34, 12, 49, 38, 18

56. Write a function for Dynamic Implementation of stack.

57. Write a function to create Doubly Linked List.

58. Write an algorithm to convert given infix expression to postfixexpression.

59. What is height-balanced tree ? Explain LL and RR rotationswith an example.

 60. Explain use of setfill( ) and setiosflags( ) manipulators with the help of suitable example.

 61. Write a note on exception handling.

62. Write a program to display the contents of a text file in the reverse order.

 63. Write a program to swap two integers using function template.

64. Differentiate between BFS and DFS.

65. Write a function to display doubly linked list in reverse order.

 66. Explain different types of recursive tree traversing techniques with an example.

67. Explain Quick sort technique with an example.

68. What is doubly circular linked list ? Explain its node structure.

69.What are the drawbacks of sequential storage ?

 70. Write a function to sort given singly linked list.

71. Write a function to check whether given expression is parenthesis or not.

 72. Explain different types of dynamic memory allocation functions.

73.Sort following data by using Merge sort techniques : 12, 5, 122, 9, 7, 54, 4, 23, 88, 60

 74. Write a function to remove given node from singly linked list and add it at the given position in singly linked list.

 76 Write a function to create and display circular singly linkedlist.

 77. Evaluate the following Postfix expression : 77.4, 5, 4, 2, ^, +, \*, 2, 2, ^, 9, 3, 1, \*,

 78. Explain Kruskal’s algorithm for minimum spanning tree withan example.

 78. Construct Binary Search Tree for the following Data :

 July, Jan, Feb, Dec, Mar, Oct, Nov, Apr, Jun, Aug

 79. Differentiate between doubly linked list and tree.

 80.(d) Explain Binary Search Method with an example.

 81. Write a function to remove first node from singly linked list and display remaining list.

 82. Define abstraction.

 83. What is inline function ?

 84. What is the purpose of setw and endl ?

85. Define constructor.

 86. What is abstract class ?

87. What is the use of this pointer ?

 88. What is pure virtual function ?

 89. What is reference variable ?

 90. Write two-way for opening a file in C++.

 91. What is fstream ?

93. Differentiate between procedure oriented languages and objectoriented languges.

94. Explain memory management operators with the help of suitableexample.

95. Explain use of default argument in a function with suitableexample.

 96. What is friend function ? Write any three characteristics of it.

97. Explain virtual base class with a suitable example.

98. Explain the structure of a C++ program.

99. Write a note on implicit and explicit type conversion.

 100. Write a C++ program to calculate area and circumference of a circle using inline function.

101. Explain parameterized constructor with the help of suitable example.

 102. Write a note on polymorphism.

 103. Write a program to calculate area of a rectangle and a triangle using function overloading.

 104. Explain rules of operator overloading.

105. Write a note on class template.

106. Explain DFS with an example.

 107. Explain Heap Sort technique with an example.

 108. Write an Algorithm to convert given infix expression to prefix expression.

 109. What is Queue ? Explain its types in detail.

110. Explain different types of AVL rotations with an example.

 111. Construct Binary search tree of following data :

112. DEC, MAR, APRIL, JAN, JUN, AUG, SEPT, NOV

113. What is an algorithm ? Explain its characteristics.

114. Explain BFS with an example.

115. What is the difference between array and structure ?

116. Explain BFS traversing technique with an example.

 117. Sort the following data by using bubble sorts techniques :

. 56, 23, 98, 67, 3, 87, 45, 77, 99

118. Write a ‘C’ program for addition of two polynomials.

 129. Write a function to merge given two singly linked lists.

 120. Write a function to create and display circular singly linked list.

121. What is Graph ? Explain Adjacency list of graph.

 122. Write a function to count the number of leaf and non-leaf

 123. nodes in a tree (Recursive functions).

124. Write an algorithm for evaluation of prefix expression.

127. Write a function to remove last node of singly linked list and

 125. add it at the beginning of linked list.

 126. Sort the following data by using Insertion sort techniques :

 87, 45, 12, 90, 67, 54, 34, 23, 60

 127. What is circular queue ? Explain it with an example.

128. Write the recursive functions to traverse a tree by using

129. inorder(), preorder() and postorder() traversing techniques.