Summary

Summary of your recent exam

Result: **Pass**
Marks: **22/40**
Percentage: **55.00 %**

Questions: **40**
Correct Answers: **22**
Attempted: **40**

1. Which of the following sorting algorithms in its typical implementation gives best performance when applied on an array which is sorted or almost sorted (maximum 1 or two elements are misplaced).

2. What is the best time complexity of bubble sort?

3. Consider a situation where swap operation is very costly. Which of the following sorting algorithms should be preferred so that the number of swap operations are minimized in general?

4. Which of the following algorithm design technique is used in Quick sort?

5. Selection sort algorithm design technique is an example of

6. The result of evaluating postfix expression 539*74-/+62*- is

7. What would be the time complexity of push and pop operation if, the stack implementated using linked list?

8. If one dimentional array A[MAXSIZE] is used to implement two stacks provided two stacks grow from opposite ends of the array. Variables top1 and top2 (top1 < top 2) point to the location of the topmost element in each of the stacks, then which of the followings stetements must be true?

   I. If the space is to be used efficiently, the condition for stack full is top1= top2 -1
   II. The condition for stack full is top1 + top2 = MAXSIZE

9. The _____ data structure is used to check whether an arithmetic expression has balanced parenthesis or not

10. Which of the following is the disadvantage of the array?

11. Which one of the following is an application of Queue Data Structure?

12. Which of the following is true about linked list implementation of queue?

13. Consider the following pseudo code. Assume that IntQueue is an integer queue. What does the function fun do?

```
void fun(int n)
{
    IntQueue q = new IntQueue();
    q.enqueue(0);
    q.enqueue(1);
    for (int i = 0; i < n; i++)
    {
        int a = q.dequeue();
        int b = q.dequeue();
        q.enqueue(b);
        q.enqueue(a + b);
        print(a);
    }
}
```

14. .....is an abstract data type that generalizes a queue, for which elements can be added to or removed from either the front or rear end

15. What will be queue full condition for circular queue if implemented using static array, provided rear and front are initially -1?

16. Which of the following statement is true about the complete binary tree?

I. In complete binary tree, every level must be filled from left to right direction
II. Every full binary tree can be considered as a complete binary tree but reverse is not true

17. Which one of the following is an application of Graph Data Structure?

18. In binary tree if non-leaf node has non-empty left sub-tree and non-empty right sub-tree then such binary tree is called as .....

19. Suppose the numbers 80 110 120 60 40 70 90 100 85 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?

20. Given an undirected graph G with 5 vertices and 7 edges, the sum of the degrees of all vertices is:

21. what would be the number of zeros in the adjacency matrix of given graph?

22. How many undirected graphs (not necessarily connected) can be constructed out of a given set V = {v1, v2, ... vn} of n vertices?

23. Which of the following statement is correct about flow chart and a pseudocode?

24. Which of the following is advantage of linked-list over array?

25. Which of the following statement(s) is TRUE?
I. A hash function takes a message of arbitrary length and generates a fixed length code.
II. A hash function takes a message of fixed length and generates a code of variable length.
III. A hash function may give the same hash value for distinct messages.

26. Which of the following statement(s) is/are correct regarding Bellman-Ford shortest path algorithm?
I. Always finds a negative weighted cycle, if one exists.
II. Finds whether any negative weighted cycle is reachable from the source.

27. Merge Sort works on two principles

28. How many pointers need to modify to insert any element at the front of the singly linear linked-list.

29. Dijkstra’s Algorithm cannot be applied on .....

30. What is the worst case time complexity of traversal of doubly linked list ?

31. In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is

32. Which of the following is/are advantages of cicular linked list?

33. The time required to search an element in a linked list of length n is

34. Is it possible to add node before specified node in a singly linked list?

35. Which of the following is suitable data structure to implement priority queue?

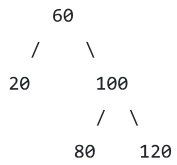
36. Which of the following implementation is correct to count the total number of nodes in singly circular linked-list?

37. Which of the following are application of linked list?

38. Which of the following asymptotic notation is used represent lower bound?

39. Prim's algorithm is a.....

40. Consider the following AVL tree.



Which of the following operation need to do after insertion of 70?