DATA & FILE STRUCTURES

1. What is a Stack? Write algorithms for PUSH and POP operations on the Stack. 20
2. Explain the difference between :
   (a) Array and Linked list
   (b) Single linked list and doubly linked list. 20
3. What is queue? Write algorithms to insert and delete elements in a queue. 20
4. Write agorithm to insert an element in the linked list at the following positions :
   (a) In the beginning of the list.
   (b) After a specified element
   (c) Before a specified element
   (d) At the end of the list. 20
5. (a) What is binary tree? How binary trees can be represented in the main memory? 10
   (b) Explain briefly various operations that can be performed on a binary tree. 10
6. Write down the algorithm for insertion and deletion of an element from a linear array. 20
7. Explain sequential file organization. How records in a sequential file are accessed? Explain the advantages and disadvantages of sequential file organization. 20
8. Discuss direct file organization. Explain various operations that are performed on direct file. 20

9. What do you mean by hashing? Explain some hash functions. Discuss various methods of collision resolution. 20

10. Write short notes on the following:-

(a) Indexed sequential file organization, (b) Fixed and Variable length records, (c) Threaded Binary tree, (d) Sparse arrays. 20

BUSINESS PRACTICES & COBOL PROGRAMMING