QUESTION BANK

Branch:AIML SEM :III

**SHORT ANSWERS-----2MARKS**

1. Define Data structures and list out the different data structures
2. List out differences between linear and non linear data structures.
3. what is Deque and its operatios
4. What is Space and time complexity?
5. Define Stack Data structure and operations of Stack
6. what is Static and Dynamic representation of Data structures
7. what are Different types of Expressions in Data structures
8. what is an queue data structure and list out the operations
9. What is a Tree,Spanning trees and minimum Spanning trees
10. what is an Binary tree and Binary Search tree
11. what is an Array and differences between arrays and linked list
12. diffewrence between arrays and linked list
13. Difference between single linked list and double linked list
14. What is a sparse matrix
15. what is a Threaded Binary Tree
16. What is Balance factorin AVL Trees how will you calculate .
17. what is an AVL Tree and represent it with one example and List out the rotations of AVL trees
18. Draw an example of Red-Black trees
19. what is Hashing and Hash function
20. What is an Adjacency matix

**LONG ANSWERS**

1. Explain in detail about Stack .write about operations of Stack
2. Explain in detail about queue .write about operations of queues
3. Briefly Explain Circular queue with an example
4. How to convert infix to post fix Expression and infix to prefix Expression
5. Write the Algorithm to evaluation of postfix Expression
6. Explain about Single linked list in detail
7. Explain about Double linked list in detail.
8. What is collision and explain the collision avoidance techniques
9. What is linear probing,double hashing,quadratic probing,rehashing
10. What is circular queue and Explain its operations(insertion and deletion)
11. Explain in detail about BST(Binary search Trees)
12. What are advantages and disadvantages of Binary search Trees
13. Explain in detail about AVL Trees and its Advantages
14. Explain B+trees
15. What is minimum Spanning tree and explain the Kruskals Algorithm with an example
16. What is minimum Spanning tree and explain the Prims Algorithm with an example
17. Write about Dijikstra Algorithm
18. Explain the insertion sort and quick sort in detail
19. Explain Max and Min heap trees
20. What are the two types of Graph Traversala(BFS,DFS)with an example