ITM(SLS) Baroda University
School of Computer Science, Engineering and Technology
Semester VI

-: Question Bank :-

Course Name : Data Structures And Algorithms
Course Name : C2620C1
Years : None
Chapters : 1 , 2 , 3 , 4 , 5
Total Questions : 15

- ## Questions :-

1. Differentiate between linear and non linear data structures. **(Chapter : Introduction To Data Structure)**
2. Define Data Structure and differentiate between linear and nonlinear data structures. **(Chapter : Introduction To Data Structure)**
3. Explain average case timing analysis for Search Algorithm. **(Chapter : Introduction To Data Structure)**
4. Discuss the variations of a queue. **(Chapter : Linear Data Struture)**
5. Write an algorithm to convert an infix expression to postfix expression. Show the working of the algorithm for the following expression. A+B*C/D$E-(F*G) **(Chapter : Linear Data Struture)**
6. Evaluate the following postfix expression using a stack. Show the steps. 2 $ 3 + 5 * 2 $ 2 – 12 $ 6 **(Chapter : Linear Data Struture)**
7. Perform inorder, postorder and preorder traversals for the following binary tree. What is the peculiarity of the inorder traversal? **(Chapter : NonLinear Data Structure)**
8. What is a binary search tree? Create a binary search tree for the following data. 14, 10, 17, 12, 10, 11, 20, 12, 18, 25, 20, 8, 22, 11, 23 Explain deleting node 20 in the resultant binary search tree. **(Chapter : NonLinear Data Structure)**
9. Explain the working of the Kruskal's algorithm. **(Chapter : NonLinear Data Structure)**
10. What is hashing? Explain hash collision and any one collision resolution technique. **(Chapter : Hashing And File Structure)**
11. List the qualities of a good hash function. **(Chapter : Hashing And File Structure)**
12. Explain two hash functions. **(Chapter : Hashing And File Structure)**
13. Write the algorithm for binary search and find its complexity. **(Chapter :**

Sorting & Searching)

14. What is the complexity of the quick sort algorithm on sorted data? Justify your answer. **(Chapter : Sorting & Searching)**
15. Explain the difference between insertion sort and selection sort with an example. What is the time complexity of these algorithms? How? **(Chapter : Sorting & Searching)**