Code No: 157EK

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, February/March - 2022
DATA STRUCTURES
(Electrical and Electronics Engineering)

Time: 3 Hours   **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks
- - -

1.a)   What is a linked list? Explain insertion, deletion and search operation on singly linked list with an example.
  b)   Write the applications of stack.   [12+3]

2.a)   What is a stack? Explain how to implement stack using linked list.
  b)   What is ADT?   [12+3]

3.   What is hashing? Explain various hash functions.   [15]

4.   What is a skip list? Explain insertion, deletion and search operation of skip list with an example.   [15]

5.   What are AVL trees? Explain insertion, deletion and search operations of AVL tree with an example.   [15]

6.   Write an algorithm of operations of Red-Black tree.   [15]

7.   What is heap sort? Explain with example and also write an algorithm of heap sort.   [15]

8.a)   Explain Boyer-Moore algorithm.
  b)   Explain about compressed Trie.   [10+5]

--ooOoo--