

Code No: 157EK

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

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