PB24

[6268]-218

S.E. (Computer Engineering) (Artificial Intelligence & Data Science Engineering) (Insem)
DATA STRUCTURES AND ALGORITHMS
(2019 Pattern) (Semester - IV) (210252)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

1) *Answer Q.1 or Q.2, Q.3 or Q.4.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data if necessary*

Q1) a) For the given set of values: 76,40,48,5,55 Construct a hash table with size 7 and resolve collision using quadratic probing. **[6]**

b) Explain about skip list in Hashing. Give applications of skip list. **[4]**

c) What is hash function? What are characteristics of good hash function?**[5]**

OR

Q2) a) Prepare hash table by Inserting following Elements into hash table using extendible hashing: 16, 4, 6, 22, 24, 10, 31, 7, 9, 20, 26. Bucket Size: 3 (Assume) **[6]**

b) Explain applications of Hash Table. **[4]**

c) What is hashing? Explain different methods of hash function calculation.**[5]**

Q3) a) Explain how to convert general tree to binary tree with example. **[4]**

b) Write non recursive pseudocode for inorder traversal of Binary tree. **[5]**

c) Describe binary search tree deletion with example. **[6]**

OR

P.T.O.

Q4) a) Write pseudocode for BFS traversal of binary search tree. **[4]**

b) Construct Huffman's tree and determine code for following characters whose frequencies are as given : **[5]**

Character	A	B	C	D	E
Frequency	20	10	10	30	30

c) What is the necessity of Threaded binary three? Explain advantages and disadvantages of TBT. **[6]**

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