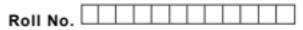


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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Software Engineering) (Sem.-3) DATA STRUCTURE & ALGORITHMS Subject Code : SE-301-19 M.Code: 78675

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

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Write briefly :

- 1) Big 'O' Notation
- Applications of Stack 2)
- 3) In-degree
- Dynamic memory allocation 4)
- Advantages of Linked List over Array 5) nnn
- Polish Notation 6)
- 7) AVL Tree
- Binary Tree 8)
- Algorithm 9)
- 10) Dangling Pointer

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SECTION-B

- 11) What is Data Structure? Explain various operations on it.
- 12) Differentiate between stacks and queue. How they are implemented using linked list?
- Explain depth first search and breadth first search in graphs.
- 14) Write a program/algorithm to generate Fibonacci series using recursion.
- 15) Explain the working of quick sort with example.

SECTION-C

16) A Binary Tree T has 9 nodes :

Inorder :	Е	Α	С	K	F	н	D	В	G
Preorder :	F	Α	Е	К	С	D	Н	G	в

- Also explain the 17) What is Heap? How to insert and delete a node from heap?
- 18) Define hashing and hash table. Also explain the concept of collision and its resolution.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



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