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Roll No

MEDC-201
M.E./M.Tech., II Semester

Examination, May 2019

System Programming

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What do you mean by complexity of algorithm? What are the different types in problem solving with digital computer algorithm? 7
b) Explain different ways of analyzing algorithm. 7
2. Write short notes (any two): 14
a) Flow chart and textural representation
b) Impure procedure and pure procedure
c) B-Tree
3. a) Explain linked list, doubly linked list and circular linked list. Explain various operations on single linked list. 7
b) Define stack. Write C program for various stack operation. 7
4. a) Explain AVL-Tree with example. 7
b) Explain B-tree with insertion and deletion operations performed on it by suitable example. 7

5. a) Sort the following array, using the quick and merge sort.
A = { 3, 41, 52, 26, 38, 57, 9, 49 } 7
b) Write short note on sparse matrix and representation. 7
6. a) Explain divide and conquer technique with example. Write an algorithm and pseudo code for merge sort. 7
b) Differentiate linear and binary search algorithm. Write an algorithm for binary search. 7
7. a) Explain the design of two pass assembler with the help of flow chart. 7
b) Explain the different phases of compilation process. 7
8. Write short notes: 14
a) Assembler
b) Interpreter
c) Compiler
