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Roll No .....

MEDC - 201

M.E./M.Tech., II Semester

Examination, June 2016

System Programming

Time : Three Hours

Maximum Marks : 70

Note: Attempt any five questions. All questions carry equal marks. Assume Data/Value if required.

1. a) Write basic requirements for recursion. Also write disadvantages of recursion.
   b) Name various data structures. Explain them.

2. a) How we declare array of pointers? Also write its disadvantages.
   b) Write a program to generate the Fibonacci series using arrays.

3. a) Convert infix to postfix
   a & & b | | c | | ! (c>f)
   b) Write C program to stack full operation.

4. a) Explain about different type of queues.
   b) How to create a copy of a linked list? Write a C program to create a copy of a linked list.

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5. a) What is a sparse matrix? How do you represent a sparse matrix.
   b) A binary tree T has 9 nodes. The inorder and preorder traversals yield the following sequence of nodes:

   Inorder : E A C K F H D B G

   Preorder: F A E K C D H G B

   Draw the tree T.

6. a) Show how quick scripts the following sequence of keys in ascending order
   22, 55, 33, 11, 99, 77, 55, 66, 54, 21, 32
   b) Explain matrix chain multiplication with an example.

7. a) Sort the following numbers using heap sort:
   46, 25, 35, 49, 10, 92, 83, 32
   b) Explain the general dynamic programming problem.

8. Write short note on :
   a) Hash search
   b) Compiler
   c) Assembler

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