Registration no: ☐☐☐☐☐☐☐☐☐☐

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                                                                                            MCC201

2nd Semester Back Examination 2016-17
DATA STRUCTURE USING C
BRANCH(S): MCA
Time: 3 Hours
Max Marks: 70
Q.CODE:Z393
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1   Answer the following questions: (2 x 10)
   a)   Mention the logical operators in C.
   b)   What is a stack?
   c)   Define a linked list.
   d)   Name any four C keywords.
   e)   What are binary trees?
   f)   What is meant by traversal?
   g)   Define the term recursion.
   h)   What are the operations performed on arrays?
   i)   Mention the advantages of inline functions.
   j)   What are virtual functions?
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Q2 a) Explain various C operators.   (5)
    b) Explain the role of scope resolution operator.   (5)

Q3 a) What are default argument values? How are they assigned?   (5)
    b) Write a C program to find average of two numbers using friend function.   (5)

Q4 a) Explain about Binary search.   (6)
    b) What are the operations done with a Queue?   (4)

Q5 a) Explain the applications of stack.   (5)
    b) Compare arrays and linked lists.   (5)

Q6 a) If the inorder traversal of a binary tree is B,1,D,A,C,QE,H,F and its   (5)
        postorder traversal is I,D,B,QC,H,F,E,A, determine the binary tree.
    b) Mention the difference between graph and tree.   (5)

Q7 a) Write an algorithm for sorting a set of positive integers in ascending order (5)
        using bubble sorting procedure. Give worst case and average case time
        complexity of the algorithm. Illustrate this procedure for following keys:
        50,78,8,11,3,95,65,36.

b) Explain with an example how an infix expression is converted into postfix expression. (5)

Q8   Write short notes(ANY TWO) of the following   (5 x 2)
    a) Threaded Binary Tree
    b) B Tree
    c) Breadth First Search
    d) Time Complexity