Code: RR100205

RR

B.Tech I Year (RR) Supplementary Examinations, November/December 2012
C AND DATA STRUCTURES
(Common to CE, EEE, ECE, CSE, EIE, BME, IT, ECon.E, CSS, ECC, ICE and BT)

Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
*****

1 (a) What is string constant? How do string constant differ from character constant? Do string constants represent numerical values?
   (b) Summarize the standard escape sequence in C. Describe them.
   (c) What is the purpose of type declarations? What are the components of type declarations?
   (d) What is a variable? How can variable be characterized? Give the rules for variable declarations.

2 (a) Why is it possible to use the same variable name for actual and formal arguments?
   (b) Distinguish between function prototype and function definition.
   (c) What is recursion? What is its advantage?

3 (a) How to use pointer variables in expression? Explain through examples.
   (b) Write a C program to illustrate the use of pointers in arithmetic operations.

4   Write a C program to implement stack with all the operations using linked lists.

5   Explain heap sort with example. Write necessary algorithms.

6   Write a program to convert given infix expression to prefix expressions using stacks.

7 (a) Define graph. Explain the properties of graph.
   (b) What is the difference between strongly connected graph and weakly connected graph?

8   Write a C program that searches a value in a stored array using binary search. What is the time complexity of binary search?

*****