R09

B.Tech I Year (R09) Supplementary Examinations January/February 2014
PROGRAMMING IN C AND DATA STRUCTURES
(Common to all branches)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) Explain the categories of modern computers according to their size and performance.
  (b) Explain different measures used to quantify storage capacities.

2 (a) What is a named constant? Explain with examples.
  (b) What is a constant? Explain different constants in C.
  (c) What is a variable? Explain with neat diagram.

3 (a) Distinguish between the following:
      (i) Actual and formal arguments.
      (ii) Global and local variables.
      (iii) Automatic and static variables.
  (b) Write a program to find the smallest element in an array.

4 (a) Explain the purpose of malloc () with an example.
  (b) Explain the purpose of calloc () with an example.

5   Write a program in C that defines a structure student containing the details such as student name, HTNO, Brach of study. The structure has to store 20 students in an engineering college. Use the appropriate method to define the above details and define a function in a structure that will display the contents in sorted order by student name.

6 (a) List the applications of command line arguments.
  (b) Write a program that detects an error when read operation is done after the end of file is reached.

7 (a) Distinguish between stack and queue.
  (b) Explain the representations of stack and queue.
  (c) What is header? Explain its role in linked list.

8 (a) Write a program to demonstrate binary search using character array.
  (b) Differentiate binary and linear search techniques.

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