

I B.Tech Year(RR) Supplementary Examinations, May/June 2010**C AND DATA STRUCTURES**

(Common to Civil Engineering, Electrical & Electronic Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Electronics & Instrumentation Engineering, Bio-Medical Engineering, Information Technology, Electronics & Control Engineering, Computer Science & Systems Engineering, Electronics & Computer Engineering, Instrumentation & Control Engineering and Bio-Technology)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is the purpose of break statement?
(b) Suppose a break statement is included within the innermost of several nested control statements. What happens when break statement is executed?
(c) Write a program to print the multiplication table upto 10 with proper format. [4+6+6]
2. The annual examination is conducted for 50 students for three subjects. Write a program to read the data and determine the following:
(a) Total marks obtained by each student.
(b) The highest marks in each subject and the Roll No. of the student who secured it.
(c) The student who obtained the highest total marks. [5+6+5]
3. Define a structure called 'cricket' that will describe the following information: player name, team name, batting average using cricket. Declare an array player with 50 elements and write a C program to read the information about all the 50 players and print a team wise list containing names of players with their batting average. [16]
4. (a) How to use pointers as arguments in a function? Explain through an example.
(b) Write a 'C' function using pointers to exchange the values stored in two locations in the memory. [8+8]
5. Write a program to convert a given postfix expression to prefix expression using stacks. [16]
6. Write a routine to concatenate two singly linked lists. [16]
7. (a) What is the maximum number of nodes in a binary tree that has 'm' leaves?
(b) Explain the properties of binary trees. [8+8]
8. (a) Explain in detail about insertion sort with time complexity.
(b) Write a C program to sort the elements of an array using insertion sort technique with suitable example. [8+8]
