

Code: RR100205

**RR**

B. Tech I Year (RR) Supplementary Examinations, May 2012

**C & DATA STRUCTURES**

(Common to CE, EEE, ECE, CSE, EIE, BME, IT, E.Con.E, CSS, ECC &amp; BT)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Describe in detail the execution of while statement with example.  
(b) Write a program to compute the sum of digits of a given integer number.  
(c) Write a program to read the values of x, y and z. Print the result of the following expression in one line:  $a = x+y+z/x-y-z$ ,  $b = x+y+z/3$ ,  $c = (x+y)(x-y)(y-z)$ .
- 2 (a) Explain how strings can be sorted in multidimensional arrays.  
(b) What are strings built in functions available? Write in detail about each one of them with example.  
(c) When array of structures are used? Declare a variable as array of structures and initialize it.
- 3 (a) What is union in C? How data is stored using union?  
(b) Write a program to pass the address of a structure variable to user defined function and display the contents. Use a structure object boy with three fields: name, age and height.
- 4 Declare a queue of integers. Write functions.  
(i) To insert an element into a queue.  
(ii) To delete an element from queue.
- 5 Write a C program to insert and delete elements from circular doubly linked list.
- 6 (a) Write a C program to sort the elements of an array using quick sort with suitable example.  
(b) What is the worst case and best case time complexity of the above program?
- 7 (a) Explain about file handling functions.  
(b) What are the reasons for defining sets of data as sequential file instead of arrays?
- 8 What is sorting? Explain about tree sorting technique with suitable examples.

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