

Code: R7100106

R07

B.Tech I Year (R07) Supplementary Examinations, June 2013

**C PROGRAMMING AND DATA STRUCTURES**

(Common to CE, EEE, ECE, CSE, EIE, IT, E.Con.E, CSS, ECC and BT)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions  
All questions carry equal marks

\*\*\*\*\*

- 1 (a) List and explain the different arithmetic operators available in C language.  
(b) Distinguish between while and do while loops.  
(c) Explain the use of continue statement in C language.
- 2 (a) What do you mean by functions? Give the structure of the functions and explain about the arguments and their return values.  
(b) Distinguish between user defined and built-in functions.
- 3 (a) Define an array. What are the different types of arrays? Explain.  
(b) Write a C program to perform matrix addition.
- 4 (a) What are bitfields? What are its advantages? What is its syntax?  
(b) Write a C program to compute the monthly pay of 100 employees using each employee's name, basic-pay. The DA is computed as 52% of the basic pay. (Gross-salary=Basic-pay+DA). Print the employee's name and gross salary.
- 5 (a) How does an append mode differ from a write mode.  
(b) Distinguish between the following functions feof and ferror.
- 6 (a) Write a C program to find an element by using the binary search mechanism.  
(b) Write an algorithm to sort the set of elements by using bubble sort.
- 7 (a) What are the various operations that can be performed on stacks? Explain them in detail.  
(b) Write the procedure to convert an infix expression into postfix form.
- 8 Write short notes on the following:
  - (a) Post order tree traversal.
  - (b) Breadth first search.
  - (c) Binary trees.

\*\*\*\*\*