

R7

Code: R7 100106

B.Tech I Year (R07) Supplementary Examinations, May 2012

C PROGRAMMING AND DATA STRUCTURES

(Common to CE, EEE, 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) What is a flow chart? Draw the flow chart to check whether a given number is even or odd.
(b) Explain the following C operators with examples :
(i) Assignment operators. (ii) Decrement and increment operators. (iii) Conditional operator.
- 2 (a) Explain the difference between call by value and call by reference with examples.
(b) What is recursion? Write a 'C' program to find GCD of two numbers using recursive function.
- 3 (a) What is a pointer? What are its advantages?
(b) Write a program to perform multiplication of two matrices.
- 4 (a) What is a structure? How is it defined and initialized? How are elements in a structure accessed?
(b) How does a union differ from a structure?
(c) What are self referential structures? Give examples.
- 5 (a) Explain various functions related to files in 'C'.
(b) Write a 'C' program to sort the elements in a file and store it into another file.
- 6 (a) Explain linear search with an example.
(b) With an example explain quick sort.
- 7 (a) Implement the operations on doubly linked list in 'C'.
(b) With an example explain how postfix expression is evaluated.
- 8 What is a binary tree? How is it represented in memory? Explain various techniques for tree traversal.
