

Code No: 09A1EC01

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**B. Tech I Year Examinations, May/June-2013****COMPUTER PROGRAMMING AND DATA STRUCTURES****(Common to all Branches)****Time: 3 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

- 1.a) What are the major differences between a time-sharing and a client/server environment?
- b) Develop a flow chart to find the maximum number in a given list of numbers.
- 2.a) Explain with syntax the for and while iterative control structures in C.
- b) Explain with suitable examples the following statements in C:
 - i) break
 - ii) continue
- 3.a) Explain briefly the functions of a C Preprocessor.
- b) Develop a C Program for multiplying two matrices.
- 4.a) Discuss with syntax the purpose of the malloc function in C.
- b) Develop a C Program to determine if the given string is a Palindrome or not. A Palindrome is a message that reads same both forwards and backwards. Ex. for a Palindrome is madam.
- 5.a) Discuss the differences between a structure and union in C with an example.
- b) Develop a C program that reads two complex numbers, calls a function for adding these two complex numbers and displays the result. Represent the complex number using a structure in C.
- 6.a) Distinguish between a text file and a binary file.
- b) Develop a C Program to count the number of blanks in a text file. The file name is supplied as a command-line argument.
- 7.a) Develop a C Program for converting the given infix expression into postfix form using a stack. Use an array to represent the stack.
- b) Define Abstract data type.
8. Develop a C Program for implementing Quick sort for sorting an array of integers in ascending order.
