

Code No: 111AF

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD****B.Tech I Year Examinations, December-2014/January-2015****COMPUTER PROGRAMMING****(Common to all Branches)****Time: 3 hours****Max. Marks: 75**

**Note:** This question paper contains two parts A and B.  
Part A is compulsory which carries 25 marks. Answer all questions in Part A.  
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**Part- A****(25 Marks)**

- 1.a) Give any two restrictions to conditional operators. [2m]
- b) What precautions should be taken while constructing statements in C language? [3m]
- c) What are scope rules? [2m]
- d) List down the limitations of recursion. [3m]
- e) Are the following two statements identical?  
char str[6] = "Kicit";  
char \*str = "Kicit"; [2m]
- f) With an examples explain the function to calculate string length. [3m]
- g) Give the difference between structure and union. [2m]
- h) What is self referential structure? [3m]
- i) Define Queue. Give its representation. [2m]
- j) List down any three applications of linked lists. [3m]

**Part-B****(50 Marks)**

- 2.a) Explain various decision making statements used in C. Give examples.
  - b) Write a brief notes on precedence and associativity.
- OR**
- 3.a) Describe various types of operators used in C language.
  - b) With the help of an example explain the usage of break and continue.
- 4.a) Write a C program to delete duplicates from an array of integers.
  - b) Write a factorial program in C using recursion.
- OR**
- 5.a) Explain the difference between static external and simple external variable. Write a C program to illustrate the properties of static variable.
  - b) Write a C program that reads values from keyboard into a two-dimensional array. Create two one - dimensional arrays that contains row and column averages.

- 6.a) Write a program to swap two numbers using pointers.  
b) Write a program which will read a string and rewrite it in the alphabetical order. For example, the word STRING should be written as GINRST.

**OR**

7. Write a function that accepts two strings str1 and str2 as arguments and find which of the two is alphabetically greater (without using the library functions). The function should return 1 if str1 is greater than str2, 0 if str1 is equal to str2, and -1 if str1 is smaller than str2.
8. Write a C program that counts the number of characters and lines in a program. Lines are designated by a new line. Also note that the program guards against a file that ends without a newline for the last line.

**OR**

- 9.a) With the help of an example explain union of structures.  
b) Write a program that reads a file containing integers and appends at its end the sum of all the integers.
10. What is selection Sort? Write a program in C to sort the list of integers using selection sort.

**OR**

11. With a neat diagram and examples explain the operations performed in doubly linked list.

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