PVP 12

**Code: CS1T5**

# I B.Tech-I Semester-Regular Examinations-February 2013

## Problem Solving & Program Design in C

## (For Computer Science Engineering)

Duration: 3hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

(1). a) Explain various kinds of information storage in computer system. (6M)

b) Explain software development method. (8M)

(2). a) Explain various data types in C (7M)

b) Write a C program to convert temperature in degrees Fahrenheit to degrees Celsius. (7M)

(3). a) Explain various if statements in C (7M)

b) Write a switch statement to select an operation based on the value of inventory. Incremnet total_paper by paper_order if inventory is 'B', OR 'C'; increment total_ribbon by ribbon_order if inventory is 'E','F', or ''D'; increment total_label by label_order if inventory is 'A' or 'X'. Do nothing if inventory is 'M'. Display an error message if the value of inventory is not one of these eight letters. (7M)

(4). a) Explain different loop statements with examples.

(7M)

b) Write a C program to compute 1+2+3+…..+(n-1)+n, where n is an integer. Follow the loop body with an if statement that computes this value to (n*(n+1))/2 and display a message that indicates whether the values are same or different. (7M)

(5). a) Write a C program to compute electricity charges according to the following rates:

Rs.9 per kwh for the first 300 kwh
Rs.8 per kwh for the next 300 kwh (up to 600 kwh)
Rs.6 per kwh for the next 400 kwh (up to 1000 kwh)
Rs.5 per kwh for the all electricity used over 600 kwh

Write a C function to compute the total charges for each customer. Write a main function to call the charge calculation function. The program should print a three-column chart listing the customer number, the kwh used and charges. (8M)

b) Explain top down design and structure charts. (6M)

(6). a) Let Arr be an array of 20 integers. Write a program that first fills the array with up to 20 input values and then finds and displays both the subscript of the largest item

in Arr and the value of the largest item. (7M)

b) Write a C program to check whether the given string is palindrome or not. (7M)

(7). a) Write a C program to read student data like rno,name,marks for 6 subjects and finds the total marks for each student and prints the results using structures. (7M)

b) What is recursion? Write a recursive function to find GCD of given integers. (7M)

(8). a) Write a C program using pointers to reverse a given string. (7M)

b) What is a file? Explain various modes of operations on files with examples (7M)