GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-I & II Remedial Examination Nov/ Dec. 2010

Subject code: 110003
Subject Name: Computer Programming and Utilization

Date: 30 / 11/ 2010   **Time: 10.30 am – 01.00 pm**
Total Marks: 70

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Answer the following Questions.   **12**
(i) Explain in brief the features of C language.
(ii) Explain logical operator and relational operator used in C language.
(iii) Draw a flow chart to find the smallest number out of three given numbers.

(b) What is "structure"? How do we declare and access structure variables?   **02**

Q.2 **(a)** Answer the following Questions.   **07**
(i) Explain "if …else…if" ladder of C with neat diagram and a brief program code.
(ii) Explain the concept of Class and Object used in C++ giving suitable example.

(b) Answer the following Questions.**(Any TWO)**   **07**
(i) Compare for loop and while loop with illustration.
(ii) What are the characteristics of constructor in C++? Explain its use with example.
(iii) What do you mean by recursive function? Explain with small example.

Q.3 **(a)** Write a program to generate fibbonacci series of numbers (total 20 numbers)   **05**
              i.e. 1, 1, 2, 3, 5, 8….etc

(b) List out the categories of functions of C. Explain any one category with example.   **04**

(c) Write a program to store 10 numbers in an array. Then find out Sum, Maximum and   **05**
Average of these 10 numbers.

OR
Q.3 **(a)** Explain following string manipulation functions.   **04**
              strcmp(), strlen(), strcat(), strstr() ;

(b) Write a program to convert temperature entered by user from Fahrenhit into Celcius.   **05**

(c) Write a C++ program which is having class named student .It has two member   **05**
functions named "read_data()" and "print_data()". It has member elements called
Rollno,Name and Percentage. Assume suitable data type for variable. And read the
data from the user and print the same on the screen using above functions.

Q.4 **(a)** Write a program to read two 5 X 5 matrices from the user and store the Addition of   **06**
two matrices in the resultant matrix.
              i.e. C=A + B , where A,B,C each one is 5 X 5 Matrix.

(b)   Write the short notes on following.   **08**
  (i)   Polymorphism
  (ii)   (ii) Difference between Object Oriented and Procedure Oriented language.

OR
Q.4 **(a)** What is pointer? Give its benefits. Write a program to do swapping of two elements   **06**
using function with two pointers as arguments.

(b) Write the short notes on following.   **08**
  (i) Inheritance.   (ii) Friend Function.

Q.5 **(a)** Explain the syntax of switch…case statement. Write a program using switch…case statement. **04**

(b) Write a program to print the following triangle for n lines **06**

```
        *
     *     *
   *    *    *
 *    *    *    *
```

…upto n such Lines

(c) State the difference between Structure and Union. **04**

OR

Q.5 **(a)** Explain the different data types of C language **05**

(b) Write a C Program to check whether the given number is prime or not. **05**

(c) What is inline function? Explain with example. **04**

****