GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-II [All Branch] examination June 2009

Subject code: 110003
Subject Name: Computer programming & Utilization
Date: 10/06/2009   **Time: 10:30am-1:00pm**
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) Draw flowchart to solve following series 1! + 2! + 3! + …..+ n!   **05**
(b) Compare Procedure oriented and Object oriented programming.   **04**
(c) Write a **C-** program read in an array of integers and print its elements in reverse order.   **05**

Q.2

(a) Find out the output of following C code. Assume all the libraries have been included and code is syntactically corrected.   **07**

   (i)

```
void main()
{
    int iX=7,iY=8,iZ=9;
    printf("\n %d  %d  %d",++iX,iX,iX++);
    printf("\n %d  %d  %d", iZ,++iZ,iZ++);
}
```

   (ii)

```
void main()
{
    int iA = 6, iB = 6;
    int  *P1 = &iA, *P2 = &iB;
    printf("\n %d",(*P1)++);
    printf("\n %d",--(*P2));
    printf("\n %d", ++(*P2)-*P1);
}
```

(b) Explain various types of loop available in C with example.   **07**

OR

(b) Draw block diagram of computer and explain each block.   **07**

Q.3

(a) Explain various types of operator available in **C**   **07**
(b) What is type conversion? Explain implicit type conversion and explicit type conversion with example   **07**

OR

Q.3

(a) Explain operator precedence and associativity   **05**
(b) Explain break and continue with example   **04**
(c) What do you mean by recursive function? Explain with example.   **05**

Q-4

(a) Define following **04**
   I. Operating System
   II. Compiler
   III. Application software
   IV. System Software

(b) What is pointer ?Explain Array of pointer with example. **05**

(c) Write a function (using a pointer parameter) that calculate maximum **05**
   element from given array of integer numbers.

OR

Q. 4

(a) Explain nested structure with example. **05**

(b) What is user-defined function? Explain Actual argument and formal **04**
   argument.

(c) Write a program to that read two string and compare them using the **05**
   function **strcmp( )** and print the message that first string is equal,
   less, greater than the second one.

Q.5

(a) Define Following **05**
   a) Define following terms
      I. Class
      II. Object
      III. Dynamic binding
      IV. Polymorphism
      V. Destructor

(b) Explain characteristic of static data member and static member **05**
   function.

(c) Explain various type of Access modifier in C++. **04**

OR

Q.5

(a) What are the different forms of Inheritance? Explain each form with **05**
   example.

(b) What is friend function? Describe its characteristic. **05**

(c) State whether following statement are true or false **04**
   I. Function can not return class objects
   II. A function designed as public can not be accessed like
      any other ordinary functions
   III. Destructor never take any argument
   IV. Inheritance aids data hiding
      ****

2