Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-II Remedial Examination September 2009
Subject code: 110003
Subject Name: Computer Programming and Utilization

Date: 08/09/2009   Time: 03:00pm - 5:30pm
                                          Total Marks: 70

Instructions:
1. **Write seat no. and enrolment no. at given location on question paper.**
2. **Attempt all questions.**
3. **Make suitable assumptions wherever necessary.**
4. **Figures to the right indicate full marks.**

Q.1 **(a)** Draw Block Diagram of Computer System and Explain its various components. **04**

(b) Explain Various Symbol used in Flowchart and Draw the Flowchart for finding largest Number out of three given Numbers. **05**

(c) Write a program in C for generating sum of first 100 integer numbers **05**

Q.2 **(a)** (1) Explain scanf( ) and printf( ) with syntax. **03**
(2) Create a class rectangle and write program in C++ to print area of rectangle. **04**

(b) (1) Explain local variable Vs Global Variable using example. **03**
(2) Explain different datatypes used in C Language . **04**

OR

(b) (1) Give name of loop statements. Explain any one loop statement with example **03**
(2) Explain different operators used in C Language **04**

Q.3 **(a)** What is array? What are the advantages to use array? Explain single and multi-dimensional array with example. **05**

(b) Write a program in C to sort N integer Numbers in ascending orders. **05**

(c) Compare : C Language and C++ Language. **04**

OR

Q.3 **(a)** What is structure? How it is different from union? **05**
Explain nested structure and array of structure with example.

(b) Write a program in C to reverse the input string. **05**

(c) Describe following string functions in C-Language. **04**
(1) strcpy( )   (2) strcat( )   (3) strlan( ) (4) strcmp( )

Q.4 **(a)** What is pointer? How Pointer is initialized? How it is different to array? Explain (*p)[5] and *p[5]. **07**

(b) Compare : Static Memory Allocation Vs. Dynamic Memory Allocation. **07**

OR

Q. 4

(a) What is constructor? What is destructor? Explain it with example. Also Give some of the special properties of constructor and destructor. **05**

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(b) Create a class named student having data member student name, roll no. and four subject marks. Write a member function to **05**
    (1) Input student name, roll no. and marks of subjects
    (2) Calculate percentage
    (3) Display all information.

(c) Explain following Object Oriented Programming Terms in detail. **04**
    1) Data Abstraction 2) Polymorphism

Q.5 **(a)** What is function? Explain "Pass by value "and "Pass by reference". Give one-one example of User Defined Function and Library Function. **05**

(b) Find the smallest number from the two numbers with the help of class & object. **05**

(c) What is recursion? Explain it with factorial(4). Write C program to find factorial (N) using recursive Function? **04**

OR

Q.5 **(a)** Explain if .. else and switch –case statement with example. **05**

(b) Write a program in C to count number of positive , negative and zero elements from 3 x 3 matrix. **05**

(c) Give example of friend classes/functions in C++. **04**

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