(CP-3)
GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. all Sem-I Examination December 08/January 09
Computer Programming and Utilization (110003)

DATE: 24-12-2008, Wednesday   TIME: 12.00 to 2.30 p.m.   MAX. MARKS: 70

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

Q-1   Attempt following programs in **C/C++** language.
(a)   Write a program to read two matrix from the user and store the multiplication of   **05**
two matrix in the resultant matrix.
i.e. C=A * B
(b)   Write a program to generate Fibonacci series of n given numbers using   **05**
function named fibbo.
i.e. 1 1 2 3….
(c)   Write a c++ program which is having class named student. It has two functions
named readdata() and writedata() It has member elements called studID,   **04**
studname, studphno, studpercentage. assume suitable data type for variable.
And read the data element from the user and print the same on the screen
using member functions.

Q-2
(a)   Do as directed.   **07**
   i)   Find out the output of following C code. Assume all the libraries has been
   included and code is syntactically correct.
   Void main()
   {
      Char cAddress[30]="Gtu Examination";
      Int iX=67584;
      Float fZ=95.7658;
      Printf("%.6s\n",cAddress);
      Printf("%7s\n",cAddress);
      Printf("%010d\n",iX);
      Printf("%10d\n",-iX);
      Printf("%*.*f\n",7,2,fZ);
      Printf("%e\n",fZ);
      Printf("%12.4e\n",-fZ);
   }
   ii)   Find out the error if any in the following code and correct it and give the output.
   Void main()
   {
       Int iNo[3] = {10,20,30,40};
       Char cName[] = "exam";
       Char cMidd[]= "university";
        Strcpy(cName,cMidd);
        Printf("%d",iNo[0]);
       Printf ("%s",cName);
   }

(b) Attempt **any two**.   07
    i) What is structure? How do we declare and access structure variables?
    ii) What do you mean by recursive function? Explain with small example.
    iii) Explain conditional operator with small example.

Q-3 Do as directed.
    i) Draw a flow chart to find the maximum number out of three given numbers.   **05**
    ii) What is program? Explain break and continue with example.   **04**
    iii) Explain following string manipulation functions.   **05**
        Strncmp(),strlen(),strcat(),strstr(),strchr();
OR
Q-3 Do as directed.
    i) Draw a flow chart to do the sum of 10 elements read from the user.   **05**
    ii) List out operators used in C language and explain any four with example.   **05**
    iii) What do you mean by constants in C language? Explain types of constants in   **04**
        detail.

Q-4 Do as directed.
    i) What is pointer? Write a program to do swapping of two elements using   **05**
        pointers.
    ii) List out the categories of functions. Explain any one category with example.   **05**
    iii) State the difference between Structure and Union.   **04**
OR
Q-4 Do as directed.
    i) Write a program to find out sum of 6 elements of array using pointer.   **05**
    ii) What is scope, visibility and life time of variables? Explain Static variables with   **05**
        example.
    iii) State the difference between entry control loop and exit control loop.   **04**

Q-5 Do as directed.
    i) Explain the concept of Class, Object, Polymorphism and Inheritance.   **04**
    ii) Explain structure of class with example.   **05**
    iii) What is inline function? Explain with example.   **05**
OR
Q-5 Do as directed.
    i) Give the difference between object oriented language and procedure oriented   **04**
        language.
    ii) Explain friend function with example.   **05**
    iii) What are the characteristics of constructor? Explain how to initialize the   **05**
        variable using constructor.