

**GUJARAT TECHNOLOGICAL UNIVERSITY**

P.D.D.C. Sem- I Remedial Examination March / April 2010

**Subject code: X10002****Subject Name: COMPUTER PROGRAMMING AND UTILIZATION****Date: 31 / 03 / 2010****Time: 12.00 noon – 02.30pm****Total 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.**

- a. Write a C program to generate Fibonacci series using function. **07**
- b. Write a C ++ program to find out the volume of cube, cylinder and rectangular box using the concept of function overloading. Assume suitable CLASS name and its member elements and member functions. **07**

**Q-2 Attempt following questions.**

- a. Explain switch statement with flowchart and make a calculator having functions addition, subtraction, multiplication, division and modulo. **07**
- b. Explain ternary operator and compare the same with if...else statement. **04**
- c. Give the output of following C code .(Assume all the standard libraries has been included and code is syntactically correct.) **03**

```
void main()
{
    printf(“%06d”,2010);
    printf(“%#6X”,1234)
    printf(“%7.2f”,69.2010);
}
```

**OR**

- b. Write a C program to arrange array of N elements in to ascending order. **04**
- c. Explain logical operator and size of operator in C language. **03**

**Q-3 Attempt following questions.**

- a. What is scope and visibility of variables? Explain concept of Global and static variables. **06**
- b. Explain the concept of Command line arguments in C language. **04**
- c. Give the difference between structure and union. **04**

**Q-3 OR**

- a. Give the use of following library functions. **06**  
strlen(), strev() , strcat(), strcmp()  
Write a program to check whether given word is palindrome or not using given functions.
- b. What is recursion? Wire a program to find out factorial of a given number using recursion. **04**
- c. List out advantages of using pointers. **04**

**Q-4 Do as directed.**

- a. Write a C program to exchange two integers using function with pointer arguments. **06**
- b. “Major limitation of C function is that it can return only one value and to overcome this situation we have to use pointers.” Justify this statement. **04**
- c. Draw a flow chart of to do a sum of first 10 numbers. **04**

**OR****Q-4 Do as directed.**

- a. How do you initialize and declare and access the member elements of nested structure elaborate same with suitable example. **06**

- b. `int main()`  
`{ char CGender;`  
`short SPrice;`  
`int Ival=9;`  
`printf( "sizeof CGender = %d\tsizeof(char) = %d"`  
`"\nsizeof SPrice = %d\tsizeof(short) = %d"`  
`, sizeof CGender , sizeof SPrice);`  
`printf("\nValue of Ival is : %d%d%d", ++Ival, --Ival, Ival++);`  
`return 0;`  
`}` **04**
- c. Explain call by value and call by reference with reference to function argument. **04**
- Q-5 Attempt following questions.**
- a. Explain concept of reference variables in C++. **07**
- b. List out basic concepts of Object –Oriented Programming explain each in detail. **07**
- OR**
- Q-5 Attempt following questions.**
- a. What are the special characteristics of friend function write a small program which illustrates the use of friend function. **07**
- b. What is inline function? Illustrate the same with example. **07**
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