

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: X 10002**Date: 17/01/2013****Subject Name: Computer Programming & Utilization****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) Draw basic block diagram of computer and explain each component of it. **07**
 (b) Explain various input and output devices for computers. **07**

- Q.2** (a) Write an algorithm and draw flow chart to find minimum of three numbers. **07**
 (b) Write a program to compute Income tax when total income is given. **07**

Income	Tax
Up to Rs. 50,000	Nil
Rs. 50,001 to 60,000	10%
Rs. 60,001 to 1,50,000	20%
Rs. 1,50,001 or above	30%

Total tax to be payable is calculated by adding 15% surcharge to the tax computed using above table.

- Q.3** (a) What is Constant? Explain different constant with example. **07**
 (b) Write a 'C' program which displays the Floyd's triangle. **07**

```
1
2 3
4 5 6
7 8 9 10
```

- Q.4** (a) Explain various types of loops in 'C' with examples. **07**
 (b) Write a program to print first N Fibonacci numbers using for loop. **07**
 i.e. 0,1,1,2,3,5,8,13,.....N

- Q.5** (a) Explain initialization of One and Two dimensional arrays in 'C'. **07**
 (b) Write a program to arrange array of N elements into ascending order. **07**

- Q. 6** (a) List benefits and applications of object oriented programming C++.
 (b) Explain expressions and their types in C++.

- Q. 7** (a) Explain constructors and destructors for C++ language. **07**
 (b) Write a C++ program of calculating Factorial of numbers using recursive function. **07**
