Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**PDDC - SEMESTER–I EXAMINATION – WINTER 2015**

**Subject Code: X10002** **Date:22/12/2015**

**Subject Name: Computer Programming and Utilization**

**Time: 10:30am to 01:00pm** **Total Marks: 70**

**Instructions:**

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

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|---|---|---|---|
| **Q.1** | **(a)** | Explain how programming is useful in Civil Engineering? Explain flow chart and related symbols. | **07** |
| | **(b)** | Explain Constants in C programming. | **07** |
| **Q.2** | **(a)** | Explain various data types used in C programming. | **07** |
| | **(b)** | Write program to find taller boy out of three. | **07** |
| | | **OR** | |
| | **(b)** | Using while loop write program to print numbers divisible by 3 from 1 to 200. | **07** |
| **Q.3** | **(a)** | Define hierarchy of operators. Explain (i) Logical operators, (ii) Assignment operators. | **07** |
| | **(b)** | Explain with syntaxes: (a) go to, (b) nested if, (c) Switch statements. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Write program to find area of Rectangle, Circle and Triangle using Switch statement. | **07** |
| | **(b)** | Explain syntaxes with example of (a) For loop; (b) Do while statement. | **07** |
| **Q.4** | **(a)** | What is the difference between an identifier and an array? Explain different types of arrays. | **07** |
| | **(b)** | Write Program to find sum of two 3 x 3 matrices. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain Structures in C Programming with suitable example | **07** |
| | **(b)** | Explain in detail pointers. Describe advantages of pointers. | **07** |
| **Q.5** | **(a)** | What is recursion? Explain in detail various types of function. | **07** |
| | **(b)** | Differentiate between Procedure oriented programming and Object oriented programming. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain following in C++<br>(1) Classes,<br>(2) Objects,<br>(3) Encapsulation,<br>(4) Polymorphism,<br>(5) Inheritance | **07** |
| | **(b)** | Explain different types of preprocessors. | **07** |

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