

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. SEM-I Examination January 2010

Subject code: 110003

Subject Name: Comp. Prog. & Utilization

Date: 04 / 01 / 2010

Time: 11.00 am – 1.30 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 the Block Diagram of Computer Architecture and explain each block with its functions. **07**
- (b) Give comparison of **07**
1. C and C++ Programming language.
 2. Flow charts and Algorithms
- Q.2** (a) Write a C++ Program to demonstrate the operators' hierarchy **07**
- (b) Define Function with different parameters: Write a Program to demonstrate the Recursive Function. **07**
- OR**
- (b) Write a Program to demonstrate the “call by value” and “call by reference” concept in C **07**
- Q.3** (a) Define Object and Class and Give comparison of Object Oriented Language and Procedural Language. **07**
- (b) What is the use of Constructor and Destructor in C++? Write a C++ program to demonstrate the use of Constructor and Destructor. **07**
- OR**
- Q.3** (a) What is a User Defined Data type? What is the scope and life time of variable? Explain using C++ program **07**
- (b) Describe the features of OOP Language **07**
- Q.4** (a) Write a C program to find out Armstrong Numbers between 0 and 999. **07**
Example : 153 is an Armstrong number because $1^3+5^3+3^3=153$
- (b) Give examples of various string operation functions demonstrate them using an example program. **07**
- OR**
- Q.4** (a) What is Friend function? Write a C++ Program to show usage of Friend Function. **07**
- (b) What is Pointer? How to initialize the pointer and how it is different from Array? **07**
- Q.5** (a) Give comparison of Static Memory Allocation and Dynamic Memory Allocation with a code snippet. **07**
- (b) Write C++ program to explain the concept of **07**
1. Polymorphism
 2. Inheritance
- OR**
- Q.5** (a) Describe various types of Inheritance **07**
- (b) Explain branching and looping in with example code **07**
