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 07
block with its functions.
(b) Give comparison of 07
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.

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 07
Language and Procedural Language.
(b) What is the use of Constructor and Destructor in C++? Write a C++ program to demonstrate the use of Constructor and Destructor.

OR
Q.3 (a) What is a User Defined Data type? What is the scope and life time of 07
variable? Explain using C++ program
(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.

OR
Q.4 (a) What is Friend function? Write a C++ Program to show usage of 07
Friend Function.
(b) What is Pointer? How to initialize the pointer and how it is different from Array?

Q.5 (a) Give comparison of Static Memory Allocation and Dynamic Memory 07
Allocation with a code snippet.
(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
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