

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Sem - IV Examination - June- 2011****Subject code: 140704****Subject Name: Object Oriented Concepts & Programming****Date:13/06/2011****Time: 10.30 am – 01.30 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) Answer the following questions. **06**
 1. Which aspects of the system are abstracted by each model? Tell in brief.
 2. List the characteristics of object oriented programming.
- (b) Write a class called “arithmetic” having two integer and one character data members. It performs the operation on its integer members indicated by character member (+, -, *, /). For example * indicates multiplication on data members as d1 * d2. Write a class with all necessary constructors and methods to perform the operation and print the operation performed in format Ans = d1 op d2. Test your class using main(). **08**
- Q.2** (a) What is operator overloading? Give a programming example that overloads == operator with its use. **07**
 (b) Explain the generalization and specialization with the help of the proper examples. **07**
- OR**
- (b) What is aggregation? Explain it with the help of proper examples. Compare it with association. **07**
- Q.3** (a) Explain following with respect to C++ with examples. **06**
 new operator, destructor
- (b) Define a class to represent a string with operations string length, compare and reverse. Show its use by writing main(). **08**
- OR**
- Q.3** (a) What is inheritance? Give the different types of inheritance and explain how it encourages reusability and sharing. **06**
 (b) Write a C++ program demonstrating use of the pure virtual function with the use of base and derived classes. **08**
- Q.4** (a) What do you mean by type conversion? Give an example of basic to object conversion. **07**
 (b) What is copy constructor? Give its use. When it is used implicitly for what purpose? **07**
- OR**
- Q.4** (a) Explain the inline functions and default arguments giving examples. **07**
 (b) Show the use of multiple inheritance with the help of proper programming example. **07**

- Q.5 (a)** What do you mean by object model? Explain it with example. **07**
(b) List and elaborate the objects and classes with their relations involved in a departmental store selling the grocery items. **07**

OR

- Q.5 (a)** What do you mean by function model? Explain it with example. **07**
(b) List and elaborate the information and operations involved in a departmental store selling the grocery items. **07**
