

**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**

\*\*\*\*\*

downloaded from  
StudentSuvidha.com