

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – IInd - Examination – June/July- 2011

Subject code: 1720109

Subject Name: Object Oriented Programming

Date: 01/07/2011

Time: 10:30 am – 01:00 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.
- | | | |
|---|--|----|
| 1 | What is transient variable? | 01 |
| 2 | What do you understand by Synchronization? | 01 |
| 3 | What is similarities/difference between an Abstract class and Interface? | 01 |
| 4 | Explain what is meant by the terms subclass and superclass. | 01 |
| 5 | Java uses "garbage collection" for memory management. Explain what is meant here by garbage collection. What is the alternative to garbage collection? | 02 |
| 6 | What are Access Specifiers available in Java? Explain the different forms of Polymorphism. | 02 |
| 7 | What is the difference between the instanceof and getClass, these two are same or not? | 02 |
| 8 | Write in brief: Virtual function, Virtual base class. | 02 |
| 9 | Write a short note on UML Notations. | 02 |
- Q.2 (a)** Explain multiple inheritances with example. Can multiple inheritances be converted into normal (i.e. single) inheritance? Give Example. 07
- (b)** What is Exception? List some subclasses of Run Time Exceptions. Explain custom Exception with example. 07
- OR**
- (b)** Explain difference between Overriding and Overloading with an example. 07
- Q.3 (a)** State Difference between Application and Applet. Explain Applet Life Cycle. Write an applet to display different shapes like triangle or rectangle with boundary n fill colours. 07
- (b)** Explain class modifiers, variable modifiers, constructor modifiers and method modifiers in detail. 07
- OR**
- Q.3 (a)** What are default arguments to functions? Show them with example. Can they be used with constructors? If yes, show its use with example. 07
- (b)** There is a class called employee. Employee has members empid, name and salary. Write an application for writing the employee records in a .txt file. Then the application will read the records from the file and display the records. For implementing this problem, use ObjectOutputStream and ObjectInputStream class. 07
- Q.4 (a)** Write a frame based program for student registration to gather information like name, age, contact detail, gender etc. Use proper layout manager. 07
- (b)** What is parameterized constructor? How is it useful in dynamic initialization of objects? Explain with example of point class defined with x and y coordinates. 07

OR

- Q.4** **(a)** Create a class called product, each product has a name, code and price. Create a vector of product objects. We can add, modify, delete product from vector. We can display the size and capacity of vector. After above operations on vector, vector elements should be displayed. **07**
- (b)** Create an applet which has a Text Field to accept a URL string, and displays the document of the URL string in a new browser window. **07**
- Q.5** **(a)** Write an applet which has FILE, EDIT and VIEW MENU. Create appropriate sub menus of each. **07**
- (b)** What is difference between static variable and instance variable? A string contains five numbers separated by commas write a program which displays the last number. **07**
- OR**
- Q.5** **(a)** Define a class called Polygon Manager, which manages a number of Polygon instances. Provide methods to add remove and list the Polygon instances managed by it. Test the methods of Polygon Manager by writing appropriate class with main method. **07**
- (b)** Answer the following questions.
- 1** What is Thread? Explain various ways to create multithread in java. **04**
- 2** Explain Polymorphism and Encapsulation. **03**
