Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2013

Subject code: 712303N **Date: 13-06-2013**

Subject Name: Object Oriented Methodology

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)**	Discuss various characteristics of Associations.	**07**
	(b)	Explain usage of following keywords in java. 1. this 2. super	**07**
Q.2	**(a)**	Give difference between ós-aô and ôhas-aô relationship with suitable example.	**07**
	(b)	Explain the concept of dynamic binding.	**07**
		OR	
	(b)	Explain RTTI and Reflection concepts.	**07**
Q.3	**(a)**	Draw a state diagram for microwave oven.	**07**
	(b)	Explain basic form of Singleton design pattern. How multi threading can be handled in singleton?	**07**
		OR	
Q.3	**(a)**	Write use case diagram for Adding new books in library.	**07**
	(b)	Adapter pattern is used to "convert the interface of a class into another interface that the clients expect. Adapter lets classes work together that could not otherwise because of incompatible interfaces." What does this mean? Give an example of Adapter pattern.	**07**
Q.4	**(a)**	Draw Sequence diagram for adding a new member in library system.	**07**
	(b)	Write and explain The Liskov substitution principle	**07**
		OR	
Q.4	**(a)**	What is Refactoring? Explain Extract Method rule.	**07**
	(b)	Explain MVC design pattern. Also list advantages of this pattern.	**07**
Q.5	**(a)**	Write a spring program to illustrate the concept of various layouts.	**07**
	(b)	Write a program to illustrate concept of ótoString()ô method.	**07**
		OR	
Q.5	**(a)**	Write a program to illustrate various methods of java.lang.Object class.	**07**
	(b)	What is Object serialization? Create a student class and write a program to serialize object of this class.	**07**

****