Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. IST Semester–Remedial Examination – July- 2011

Subject code: 712303N

Subject Name: Object Oriented Methodology

Date:11/07/2011 **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)** (i) Prepare an object diagram for the following. **04**
Sink, freezer, refrigerator, table, light, switch, window, smoke alarm, burglar alarm, cabinet, bread, cheese, ice, door, kitchen.
(ii) Explain recursive aggregates. **03**

(b) Write use case for withdrawing money in ATM. Write sequence diagram for ATM machine. **07**

Q.2 **(a)** (i) Give example of accidental multiple inheritances. **04**
(ii) Write scenario for the following. **03**
An elevator ride to the top floor.

(b) What is state generalization? Show state diagram of car transmission with generalization. **07**

OR

(b) What is a façade? Show the structure of façade. **07**

Q.3 **(a)** Prepare a data flow diagram for computing the volume and surface area of a cylinder. Inputs are the heights and radius of a cylinder. Outputs are volume and surface area. Show several ways of implementing the data flow diagram. **07**

(b) List the four possible attitudes of a class towards cloning. **07**

OR

Q.3 **(a)** Explain the following. **07**
(i) Role names
(ii) Ordering

(b) Show how concurrent sequential processes can be found in implementation of a bank account? **07**

Q.4 **(a)** Explain the following. **07**
(i) Genericity
(ii) Exception

(b) Explain Iterator design pattern with example. **07**

OR

Q.4 **(a)** Explain the following **07**
(i) Pattern
(ii) metadata

(b) Explain Singleton design pattern with example. **07**

Q.5 **(a)** Draw state transition diagram for the microwave. **07**

	(b)	(i) What are the benefits of the MVC pattern.	**04**
		(ii) What is the use of following methods? a. toString() b. instance()	**03**

OR

Q.5	**(a)**	Explain concrete and abstract entities in design patterns.	**07**
	(b)	(i) How synchronization of concurrent activities can be done in state diagram?	**04**
		(ii) When it is useful to model an association as a class?	**03**

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