

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-III • EXAMINATION – SUMMER 2013****Subject Code: 630001****Date: 10-05-2013****Subject Name: Structured and Object Oriented Analysis
and Design 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) i. Define the term Object Oriented Analysis and Design. **01**
 ii. State any two objectives that the systems analyst tries to attain when designing output of the information system? **01**
 iii. What are the different purposes of Modeling? **01**
 iv. State **TRUE** or **FALSE**: It is allowed to display the object identifiers explicitly. **01**
 v. Define: Aggregation. **01**
 vi. What are the building blocks of the UML? **01**
 vii. What are the common uses of Use Case Diagram? **01**
 (b) i. Draw the Diagram that lists the variety of information systems that analysts may develop. **03**
 ii. List out the basic symbols used in Data Flow Diagrams with their meanings and example. **02**
 iii. What are the four basic principles of Modeling? **02**
- Q.2** (a) Explain the SDLC phases with neat diagram. **07**
 (b) Define State Diagrams. Explain Sample State Diagram for telephone lines and One-shot State Diagram for chess game. **07**
- OR**
- (b) Explain the validation process on Input Transactions and Input Data. **07**
- Q.3** (a) i. List three roles that the systems analyst is called upon to play. Briefly explain them. **05**
 ii. What personal qualities are helpful to the systems analyst? **02**
 (b) What are the different structures used in arranging questions in a logical sequence? Explain any two. **07**
- OR**
- Q.3** (a) i. What is partitioning? **01**
 ii. Why Data Flow Diagrams are partitioned? **06**
 (b) What algebraic notations are used in describing Data Structures? List and explain. Give one single suitable example of using all notations. **07**
- Q.4** (a) Give a systematic way of developing a decision table that an analyst follows. *Consider the situation that customer doing sales in a store and their checkout for which you need to construct a Decision table.* **07**
 (b) How to design a good dialog using “Minimal User Action”? Explain. **07**

OR

Q.4	(a) Explain the following with neat diagram:	
	(i). Multiplicity;	03
	(ii). Association End Names.	03
	(iii). Ordering.	02
	(b) Write note on the following with neat diagram.	
	(i). Concurrency within an Object	03
	(ii). Synchronization of Concurrent Objects	03
Q.5	(a) i. What is Class Diagram?	01
	ii. Draw a class diagram of a School and explain the Logical Database Schema Modeling technique.	06
	(b) Explain the Structural and Behavioral Diagrams in UML.	07
	OR	
Q.5	(a) Explain the technique in modeling the context of a system by drawing a use case diagram in modeling a context for “Credit Card Validation System”.	07
	(b) Differentiate Sequence Diagrams and Collaboration Diagrams.	03
	Briefly explain how to model the behavior of an element for which the Use Case is applied.	04
