

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-III EXAMINATION – SUMMER 2017

Subject Code: 630001

Date: 31-05-2017

**Subject Name: Structured & Object Oriented Analysis
& Design Methodology**

Total Marks: 70

Time: 02:30 pm - 05:00 pm

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** Write a short note on **07**
- i. CASE Tools
 - ii. Data Dictionary
 - iii. HCI
 - iv. Class and object
 - v. Nested state
 - vi. Stereotype
 - vii. Include and Extends
- Q.2 (a)** Explain open ended and closed ended questions. What are the different structures used in arranging questions in a logical sequence? **07**
- (b)** Draw Context Level, 0-Level Data Flow Diagram (DFD) for mailing system like Gmail. **07**
- OR**
- (b)** Explain decision tables and decision trees with suitable example. **07**
- Q.3 (a)** Explain the factors to consider when choosing output technology. **07**
- (b)** Discuss classification code, Block sequence code, significant digit subset code, and function code for effective coding. **07**
- OR**
- Q.3 (a)** Explain the graphical user interface design elements. **07**
- (b)** Discuss the points to be considered during dialog design. **07**
- Q.4 (a)** Define the following terms. **07**
- i. Aggregation and composition
 - ii. Reification
 - iii. Entry and Exit activity
 - iv. Composite state
 - v. Qualified associations
- (b)** Draw the class diagram for online shopping system (like Amazon). **07**
- OR**
- Q.4 (a)** How could you synchronize the concurrent activities in state diagram? Discuss constraints on links. **07**
- (b)** Draw the state diagram for washing machine. **07**
- Q.5 (a)** Explain common mechanism for UML. **07**
- (b)** Define the term use cases and actor. Draw the use case diagram for messaging system (like whatsapp). **07**

OR

- Q.5 (a)** Differentiate Sequence Diagram and Collaboration Diagram. Discuss the structured control used in sequence diagram. **07**
- (b)** Draw the sequence diagram and activity diagram for the use cases of book ticket and cancel ticket for online railway reservation system **07**
