

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 140703

Date: 06/06/2017

Subject Name: Object Oriented Analysis Design And Uml

Time: 10:30 AM to 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) What is object orientation? Explain OO themes. 07
(b) What is model? Explain purposes of models. Also explain types of models. 07

- Q.2 (a) Explain Multiplicity and Cardinality with example using UML notations. 07
(b) Define Generalization. Draw UML diagram that shows multilevel inheritance. 07

OR

- (b) Define the following terms. 07
1. Ordering
 2. Bags
 3. Sequence
 4. Association class
 5. Qualified associations
 6. OCL
 7. Link

- Q.3 (a) What is Aggregation? Differentiate the following with example. 07
1. Aggregation versus Composition
 2. Aggregation versus Association

- (b) Prepare a class diagram for following group of classes. Add at least 10 relationships (Associations and Generalizations). Use Association names and association end names where needed. Also use qualified associations and show multiplicity. Explain diagram. 07

Classes:

School, playground, principal, school board, class room, book, student, teacher, cafeteria, rest room, computer, desk, chair, ruler, door, swing.

OR

- Q.3 (a) Define the purpose of following terms with suitable example and UML notation. 07

1. Activity
2. Transition
3. Swimlane
4. Guard condition

- (b) Consider an online airline reservation system. 07
1. List two actors. Explain the relevance of each actor.
 2. Draw one use case to make flight reservation.
 3. Prepare a use case diagram for an online airline reservation system.

- Q.4 (a) Compare and contrast waterfall and iterative development life cycle model. 07

- (b) Answer the following. 04
1. Define scenario, sequence diagram. Explain with suitable diagram. 04
 2. What is an event? Explain types of events. 03

OR

- Q.4 (a)** Explain the steps/criteria for finding right associations and right attributes for preparing domain class model in brief. **07**
- (b)** Draw the state diagram for phone-line with all activities. **07**
- Q.5 (a)** Answer the following.
- 1. What is package? Give advantages of grouping classes into package. **04**
 - 2. Explain completion transition and self transition. **03**
- (b)** What is one shot state diagram? Draw one shot state diagram for chess game with entry and exit points. **07**

OR

- Q.5 (a)** Explain following terms. **07**
- 1. Frameworks
 - 2. Patterns
 - 3. Layers
 - 4. Partitions
- (b)** Give the list of common architectural styles. Explain continuous transformation in detail. **07**
