Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA Integrated – SEMESTER – IV • EXAMINATION – SUMMER 2018

Subject Code: 4440604 **Date: 10-May-2018**

Subject Name: UML & Object-oriented Modeling

Time: 10.30 am to 1.00 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)** 1) _____,_____and_____ are the building blocks of UML **07**

2) The dynamic portion of the UML model is modeled using ____things.

3) A _____diagram is an interaction diagram that emphasizes on time ordering of messages

4) Is-a relationship is represented by_____ relationship in UML.

5) _____ extends the vocabulary of the UML.

6) _____class has no direct instance.

7) Connection between two objects can be represented by _____in UML.

(b) Discuss the common mechanism in UML. **07**

Q.2 **(a)** Define **08**

1) Association and link 2) Multiplicity

3) Use case and actor 4) do activity

(b) Define aggregation. Draw the class diagram for bank management system. **06**

OR

(b) Define realization. Draw the class diagram for university management system. **06**

Q.3 **(a)** Discuss the various stereotypes (any seven) that can be applied to dependency relationship. **07**

(b) Draw the sequence diagram for use case login and place order for online shopping system **07**

OR

Q.3 **(a)** What is package? Explain visibility and importing and exporting of package. **07**

(b) Discuss the various structured control in sequence diagram **07**

Q.4 **(a)** Define **07**

<<include>> and <<extends>> [2]

Draw the use case diagram for social networking site.[5]

(b) Draw the activity diagram for login and book ticket use case for online railways reservation system **07**

OR

Q.4 **(a)** Discuss main flow of scenario as well as exceptional flow for registration.[2] **07**

Draw the use case diagram for online mobile recharge system.[5]

(b) Discuss the concept of branching, forking, Joining and swimlanes in the activity diagram with example **07**

Q.5 **(a)** Define State Diagrams. Explain Sample State diagram for washing machine. **07**

(b) Define component, port, and connectors. How component are related with interfaces. **07**

OR

Q.5 **(a)** Define the term transition. Discuss concurrent states with example, **07**

(b) Define Node. Draw the deployment diagram for ATM system. **07**

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