Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED - SEMESTER– IV EXAMINATION – SUMMER 2016

Subject Code : 4440604   **Date: 10 / 05 / 2016**

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)** Fill the following blanks: 07
1. _____can be drawn in a separate compartment at the bottom of the class icon.
2. Generalization is sometimes called _____relationship.
3. Object diagram provides _____ view of a system.
4. _____is rendered as a rectangle with a dog-eared corner.
5. _____first phase in software development life cycle.
6. The process of transforming the model into code is called _____.
7. _____ is rendered as a Boolean expression enclosed in square brackets and placed after the triggered event.

(b) Define the following terms: 07
1. Collaboration
2. Interface
3. Qualification
4. Association class
5. Visibility of attribute and operation.
6. Realization
7. Distribution Unit

Q.2 **(a)** List the building blocks of UML. Explain structural and behavioral Things in detail.   07

(b) Define interaction diagram. Write the difference between sequence diagram and collaboration diagram.   07

OR

(b) Explain System's architecture in UML.   07

Q.3 **(a)** 1. List the principles of modeling.   07[04+03]
2. Write difference between aggregation and composition.

(b) Define Class. Draw a class diagram for following case study :   07
The case study 'Online Mobile Recharge' gives us the information about all the mobile service providers. This application provides us the complete information regarding any mobile service provider in terms of their plans, options, benefits, etc. Suppose, any Airtel customer wants to have the information of all the schemes and services provided by the company, he/she can have the information and according to his convenience he can recharge the mobile from the same application. The major advantage of this proposed system is to have the recharging facility of any service provider under same roof.

OR

Q.3 **(a)** Define sub state. Explain sequential and concurrent sub state with example.   07

(b) Explain dependency in detail with stereotype (Any six). **07**

Q.4 **(a)** Define Use case. Draw Use case diagram for the following case study : **07**
A Restaurant which allow three kind of user : Guest, Platinum and Administrator.
1. Guest user can view the content of site : (i) types of cuisine, rate of cuisine, (ii) venue of restaurant and can (iv) registered to the site etc.
2. Platinum user can : (i) Do all the task done by guest user and (iii) can book the table, (iii) get the discount e-coupon, (iv) get the service of home delivery for their order of food, (v) get the benefits of festival offer release by the restaurant etc.
3. Administrator can : (i) manage users, (ii) introduce the new offer, (iii) can put the offer and messages on e-notice board of the site, (iv) get the feedback from the all users etc.

(b) List the common mechanism in UML. Explain extensibility mechanism with example. **07**

OR

Q.4 **(a)** Define Action state and Activity state. Draw activity diagram for use case "Upload photo" for social networking site. **07**

(b) What is package? Explain import, export and generalization in package with example. **07**

Q.5 **(a)** Explain various component of Activity diagram. **07**
(b) Define deployment diagram. Write the difference between component and node. How deployment diagram will use? **07**

OR

Q.5 **(a)** Define Event. Explain Different types of event in detail. **07**
(b) Define component. Explain characteristic of component. Write the difference between component and classes. **07**

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