Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 4440604

MCA INTEGRATED – SEMESTER – IV • EXAMINATION – WINTER - 2016

Date: 24/11/2016

Subject Name: UML & Object-Oriented Modeling Time: 02.30 PM To 05:00pm **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) Attempt the following: 07 Symbol is used to show the composition relationship. 2) Public visibility specified by _____ Symbol. 3) Define: Event. 4) Define: Active Class. 5) Define: Scenario. 6) "UML is language" – Justify. 7) Symbol is used to show the <<extends>> relationships in Use Define Instance and Explain Object Diagram with example. 07 **Q.2** Explain Relationships in Unified Modelling Language in detail. 07 **(b)** Explain Multiplicity, Attributes and Operations of Classes in detail. 07 OR (b) Define Packages. Explain Naming, Owned Elements, Importing exporting and **07** Generalization concept of Packages. Define Activity Diagram. Discuss the concept of Forking, Joining and 0.3 07 Swimlanes in the Activity diagram giving example. (b) Explain Use case diagram with example and also explain difference between 07 extends and include relationship in Use case diagram. Define: Interface. Explain Naming to Interface, Operations and Relationships in 0.3 07 (a) Interface. **(b)** Write a short on Things of Building Blocks in UML. **07** Explain common mechanisms in UML. 07 **Q.4** (b) Define Event and Signal. What is State Diagram? Draw state chart diagram of 07 phone line system. OR 07 **Q.4** (a) Differentiate Sequence and Collaboration Diagram. **(b)** Draw Class Diagram for Online Shopping System. 07 Define Component and Component Diagram. Explain the relationship between 07 Q.5 component and class and component and Interface. Draw an Activity and Use case Diagram for a Customer visiting the Restaurant 07 for either collecting the food by parcel or dining in the Restaurant. In later case, customer looks for empty table and sits for dining. In both the cases, the waiter takes the order, fulfils the order, provides a bill and collects the payment. If the item ordered by the customer is unavailable than customer does not give any order.

(b) The Retail Store Management System is a system designed for managing, i.e. for ordering, arranging and selling goods. The retailer checks for availability of goods in the store. If the stock of goods is less, then retailer places order for goods. While ordering goods, goods are received at store, the retailer then arranges them by product or price, then he makes payment. If the stock of goods is available, then he will arrange goods for selling. The retailer then sells the goods directly to the customers. The customer buys the items from retailer. The retailer prepares bill for goods purchased by the customer, he receives the amount by credit card or cash from customer. The supplier supplies goods to the store in the system. The overall system is used to manage the goods in the store.

Draw USE case diagram and activity diagram.
