Code No: CT1514

GEC-R14

III B. Tech I Semester Regular Examinations, November 2016
OBJECT ORIENTED ANALYSIS AND DESIGN
**(Common to Computer Science and Engineering
& Information Technology)**

Time: 3 Hours   **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B**. All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. Why UML is called as Unified modeling language?

2. a) How do you indicate public, private and protected members of a class in a class diagram?

   b) What is dependency relationship?

3. Distinguish between action states and activity states.

4. What are sequential sub states? Give an example.

5. a) What is a component?

   b) How we can relate components and Interfaces in a component diagram?

6. What are the advantages of design patterns?

PART-B

4 × 12 = 48M

1. a) What is modeling? Explain importance of modeling.   (6M)

   b) How does object oriented approach is different from traditional top down approach? Explain with an example?   (6M)

2. a) What is an association relationship? Explain association qualifier and association class with suitable examples.   (6M)

   b) Draw the class diagram for the following scenario: A customer, characterized by his/her name and phone number, may purchase reservations of tickets for a performance of a show. A reservation of tickets, annotated with the reservation date, can be *either* a reservation by subscription, in which case it is characterized by a subscription series number, *or* an individual reservation. A subscription series comprehends at least 3 and at most 6 tickets; an individual reservation at most one ticket. Every ticket is part of a subscription series or an individual

reservation, but not both. Customers may have many reservations, but each reservation is owned by exactly one customer. Tickets may be available or not, and one may sell or exchange them. A ticket is associated with one specific seat in a specific performance, given by date and time, of a show, which is characterized by its name. A show may have several performances. (6M)

3. a) Draw the collaboration diagram for the use case "Register" that allows the registration of a new student into a University through Online Registration System. (6M)

   b) What is a swimlane? Explain swimlane with suitable example. (6M)

4. a) What is an event? With suitable examples, explain how to model events in UML. (6M)

   b) Define state, event and transition. Draw the state chart diagram for ATM system. (6M)

5. a) Illustrate Deployment diagram with the help of its Nodes and Connections. (6M)

   b) What are the common uses of deployment diagrams? Draw the deployment diagram for online shopping system. (6M)

6. a) What is a Design Pattern? How is it useful in Object Oriented Design? (4M)

   b) How the Catalog of Design Patterns is organized? (8M)

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