DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER VI [CE]
SUBJECT: (CE-620) OBJECT ORIENTED SOFTWARE ENGINEERING

Examination	**: Second Sessional**	**Seat No**	**: _____**
Date	**: 17/02/2017**	**Day**	**: Friday**
Time	**: 01:00 PM TO 2:15 PM**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed.

(a) Design CRC card of Customer class for Online Shopping System. **[2]**

(b) State the main purpose for the following UML diagrams: **[2]**
1. Component Diagram
2. Deployment Diagram

(c) State the advantages and disadvantages for sequence diagram with centralized control. Name the technique which can be used to solve the issues with centralized control. **[2]**

(d) Give example of Event within a state and Self Transition. **[2]**

(e) What are Patterns ? Why do we use it ? **[2]**

(f) What is trade off priorities ? **[2]**

Q.2 Attempt ***Any Two*** from the following questions.

(a) Consider an electricity bill payment application which allows users to register their accounts with respective electricity board. The system permits only registered users to pay their electricity bills online. The system also allows users to view past payments, change account information, file complaints and download bills. Identify any two complex interaction scenarios and draw sequence diagrams for both scenarios. **[6]**

(b) Define the term "package" and state the role of package diagram for complex software development. Explain the following principles and describe how they are related with packages: **[6]**
1. Acyclic Dependency Principle
2. Common Closure Principle
3. Common Reuse Principle

(c) A software is needed for a service station of an automobile company. The software should support the features like job card generation, invoice generation, display vehicle service history and spare parts information management. Identify any two complex interaction scenarios and draw communication diagrams for both scenarios. **[6]**

Q.3 (a) i.) Consider a simple **digital watch** which has a display and two buttons to set it, the A button and the B button. The watch has two modes of operation, display time mode, the watch displays hours and minutes, separated by a flashing colon. The set time mode has two submodes: set hours and set minutes. The A button selects modes. Each time it is pressed, the mode advances in sequence: display, set hours, set minutes, display etc. Within the submodes, the B button advances the hours or minutes once each time it is pressed. Buttons must be released before they can generate another event. Draw the state transition diagram for above described digital watch. **[3]**

ii.)What are the techniques to handle global resources during system design ? **[3]**

(b) Draw activity diagram for any two activities for the system described in Q.2 (a).(Electricity Bill Payment) **[6]**

OR

Q.3 (a) i.) Draw State diagram for automatic beverage dispenser. Machine accepts coins and dispenses beverages based on user's selection. Draw state diagram for beverage dispenser object. Assume various states, show events and activities on each transition. **[4]**

ii) What is the difference between Layering and Partitioning ? Explain with example. **[2]**

(b) Explain different ways of managing Software Control Strategy in design phase of the system. **[6]**