

PART B (15 Marks)

Q.2 A)	Draw the Class Diagram for the given following requirements: - A hotel has a number of rooms that can be rented by guests. There are also a number of bathrooms, which are either connected to a specific room or are used to service multiple rooms on the floor. The rooms are classified into three types: single rooms and double rooms. Each single room can only be rented to at most one guest. Each double room can be rent to at most two guests.	10
B)	Draw a Collaboration Diagram to depict iteration	5

PART B (15 Marks)

Q.2 A)	Draw a Use Case Diagram for Library Management System. Members of the library can search library catalog online to locate various resources - books, periodicals, audio and visual materials, or other items under control of the library. Members may reserve or renew an item, provide feedback, and manage their account.	10
B)	Draw a sequence diagram for taking appointment of doctor in hospital management system.	5

PART B (15 Marks)

Q. 2 A)	Make a Use Case Diagram for Hotel Management System. State all the assumptions.	10
B)	Draw a State Transition Diagram to depict composite states.	5

PART B (15 Marks)

Q.2 A)	School Management System aims to provide complete computerized operations in school. Various functionalities like Attendance, Fees, Examination, and Leaves can be managed through it. Staff records can be also be computerized. A legacy Accounting Module is integrated with it to take care of accounting functions. Draw use case diagram for School Management System.	10
B)	Show the hardware architecture using the deployment diagram for an online travel agency.	5

PART B (15 Marks)

Q. 2 A)	Make use case diagram for Payroll System. State all the assumptions.	10
B)	Draw a Class Diagram to depict - Inheritance, Aggregation, Composition	5

PART B (15 Marks)

Q.2 A)	Draw the Class Diagram for the given following requirements: - A hotel has a number of rooms that can be rented by guests. There are also a number of bathrooms, which are either connected to a specific room or are used to service multiple rooms on the floor. The rooms are classified into three types: single rooms and double rooms. Each single room can only be rent to at most one guest. Each double room can be rent to at most two guests.	10
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PART B (15 Marks)

Q.2 A)	Make a Use Case Diagram for Library Management System. Members of the library can search library catalog online to locate various resources - books, periodicals, audio and visual materials, or other items under control of the library. Members may reserve or renew item, provide feedback, and manage their account.	10
B)	Draw Activity Diagram for the scenario: - User logs successfully into his mail account.	5

PART B (15 Marks)

Q. 2 A)	Make class diagram for a Railway Reservation system. State all the assumptions.	10
B)	Draw an Activity Diagram to depict parallel activities.	5

PART B (15 Marks)

Q.2 A)	School Management System aims to provide complete computerized operations in school. Various functionalities like Attendance, Fees, Examination, and Leaves can be managed through it. Staff records can be also be computerized. A legacy Accounting Module is integrated with it to take care of accounting functions. Draw use case diagram for School Management System.	10
B)	Show the hardware architecture using the deployment diagram for an online travel agency.	5

PART B (15 Marks)

Q.2 A)	Create an activity diagram describing the process of a person (user) using the machine to buy a ticket from Churchgate to Virar. The machine accepts only coins (no credit cards, debit cards).	10
B)	Draw a Class Diagram to depict - Cardinality constraints, Qualified Association	5

PART B (15 Marks)

Q.2 A)	Draw Class Diagram for the given Courseware management System. The organization offers a variety of courses. Each course is made up of a set of topics. Tutors in the organization are assigned courses to teach according to the area that they specialize in and their availability. The organization publishes and maintains a calendar of the different courses and the assigned tutors every year. There is a group of course administrators in the organization who manage the courses including course content, assign courses to tutors, and define the course schedule.	10
B)	Draw a Class Diagram to depict - Abstract Class, Stereotype	5

PART B (15 Marks)

Q. 2 A)	Draw a sequence diagram for an elevator. The following steps describe the scenario of what happens at the elevator door from outside. <ol style="list-style-type: none">1. The passenger presses the button of either up or down depending on where he wants to go.2. Then he will see that the button he pressed is illuminated.3. The elevator is now moving to his floor.4. When the elevator reached his floor it stops.5. Now the button which was illuminated turns off.6. The door opens and the passenger enters.7. The door closes.	10
B)	Draw a Class Diagram to depict - Reflexive Association, Association Class	5

PART B (15 Marks)

Q.2 A)	Draw a use case diagram for a Retail Store management system. State all the assumptions.	10
B)	Draw a Sequence Diagram to depict iteration	5

PART B (15 Marks)

Q.2 A)	School Management System aims to provide complete computerized operations in school. Various functionalities like Attendance, Fees, Examination, and Leaves can be managed through it. Staff records can be also be computerized. A legacy Accounting Module is integrated with it to take care of accounting functions. Draw class diagram for School Management System.	10
B)	Draw a Class Diagram to depict - Ternary Association, Actor Class	5

PART B (15 Marks)

Q.2 A)	Make a Class Diagram for Library Management System. Members of the library can search library catalog online to locate various resources - books, periodicals, audio and visual materials, or other items under control of the library. Members may reserve or renew item, provide feedback, and manage their account.	10
B)	Draw a State Transition Diagram to depict composite states.	5

PART B (15 Marks)

Q. 2 A)	Draw an Activity Diagram for canceling ticket scenario in an airline reservation system. Use proper swimlanes.	10
B)	Draw a Class Diagram to depict - Abstract Class, Stereotype	5

PART B (15 Marks)

Q.2 A)	Draw Use Case Diagram for the given Courseware management System. The organization offers a variety of courses. Each course is made up of a set of topics. Tutors in the organization are assigned courses to teach according to the area that they specialize in and their availability. The organization publishes and maintains a calendar of the different courses and the assigned tutors every year. There is a group of course administrators in the organization who manage the courses including course content, assign courses to tutors, and define the course schedule.	10
B)	An online car rental agency has multiple offices/ locations where customers can test drive & then select a car for rental (local or to outstation). Software has to take responsibility for loaning cars, keeping track of availability of cars, return of cars, billing, etc. Make Deployment Diagram for the given system.	5

PART B (15 Marks)

Q.2 A)	Make a Class Diagram for Hotel Reservation System. Customer can directly or via receptionist book a room. The customer can also view profile and image gallery of the hotel and cancel the booking. The hotel staff also uses the Hotel Reservation System to manage all bookings & cancellations.	10
B)	Draw a Use Case Diagram depicting “uses” and “extends.”	5

PART B (15 Marks)

Q. 2 A)	Create an Activity Diagram for the scenario of a user getting the book issued from the library. Make necessary assumptions.	10
B)	Draw Activity Diagram for the scenario: - User logins successfully into his mail account.	5

PART B (15 Marks)

Q.2 A)	A simple digital watch 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 and set time. In the display time mode, hours and minutes are displayed. The set time has two sub-modes, set hours and set minutes. The A button is used to select modes. Each time it is pressed, the mode advances in sequence: display, set hours, set minutes, display, etc. Within the sub-modes, the B button is used to advance the hours or minutes once each time it is pressed. Buttons must be released before they can generate another event. Prepare a State Diagram of the watch.	10
B)	An institute has a placement management system that stores student data, companies' data, and data regarding students' selection in various companies. Students can register in it, fill in their details and also get updates regarding any planned campus recruitments. However, the system can be accessed only via the institute's intranet. Show its hardware architecture using the Deployment Diagram.	5