SASTRA DEEMED UNIVERSITY

Course Code: CSE 315R01

Course: SOFTWARE ENGINEERING LAB

Duration: 2 hours   **Max. Marks: 50**

1. Develop SRS vision document, use case document, traceability matrix for a "Hotel Booking System using AI-Bot" with at least 5 feature requirements, 5 use case requirements, 5 Stakeholders requirements, 5 new glossary terms, 5 special requirements. (5 Marks)

2. Identify set of use cases of "Online Travel Agency System", the events are Search, Compare, Book, Cancel, Review, and Rate based on the user preferences. The system will facilitate flight, hotel, car rental, and tour booking and cancellation. Draw use case diagrams using primary, secondary, off-stage actors and activity diagrams of the given scenes. (5 Marks)

3. Generate sequence diagram, collaboration diagram of "Online Food Delivery System" with at least 2 customers, 2 restaurants, 2 delivery agents, 10 dishes, and 1 payment gateway which display the order status and tracking of each order and finally end up with the feedback and rating. (5 +2=7Marks)

4. Build a sample code from the class diagram of "Employee Management System" with at least 4 classes, 2 subclasses, 1 interfaces, and 1 package. Perform reverse engineering by adding a new class called as payroll, attributes are employee_id, salary, bonus, tax, and deduction and methods are void calculate(), void generate(), void print(), and void update(). (15 Marks)

5. Develop a C++ code to perform pure coverage for the cases of "SASTRA Bank Account" as the user required the following operations by entering the account number and password: case 'o': "Open account", case 'c': "Close account", case 'd': "Deposit money", case 'w': "Withdraw money", case 's': "Show balance", case 'q': "Quit". Also find performance of the code using Quantify. (10Marks)

6. Develop sample C++ code to illustrate memory leak problem by using constructor and destructor. Also write the code that handles the memory leak problem using Rational Purify . (5+3=8 Marks)