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 "Library Management 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 Quiz System" with at least 2 instructors, 2 students, 10 questions, 4 choices, and 1 timer which display the score and feedback of each question and finally end up with the result status. (5 +2=7Marks)
4. Build a sample code from the class diagram of "Student Management System" with at least 4 classes, 2 subclasses, 1 interface and 1 package. Perform reverse engineering by adding a new class called as scholarship, attributes are student_id, amount, duration, and criteria and methods are void apply(), void approve(), void reject(), and void renew().(15 Marks)
5. Develop a C ++code to perform pure coverage for the cases of "SASTRA ATM Machine" as the user required the following transactions by entering the PIN and amount: case 'w': "Withdraw cash", case 'd': "Deposit cash", case 't': "Transfer funds", case 'b': "Check balance", case 'e': "Exit". Also find performance of the code using Quantify. (10 Marks)
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)