

**Shree Damodar College of Commerce & Economics**  
**S.Y.B.C.A, SEM IV, End Semester Examination, APRIL 2015**  
**SOFTWARE ENGINEERING (BCA-401)**

Duration: 2 Hours

Total Marks: 50

**Instructions:** 1) All Questions are **Compulsory**.

2) Figures to the right indicate Full Marks.

3) Write assumptions wherever required & Support your answers with relevant diagrams.

**Q1. Answer the following**

**2 x 5 = 10 Marks**

- i. Define Agile Methodology.
- ii. Give 4 examples of Non-functional Requirements.
- iii. Define Unified Modeling Language.
- iv. What are the 7 different tasks / phases of Software Requirement process?
- v. Define Software Requirement Specifications (SRS).

**Q2. Answer the following Questions**

**10 Marks**

- a) Mention any 4 Software quality attributes. **(02)**
- b) "Software plays a dual role". Justify this statement with examples. **(03)**
- c) Explain the characteristics of Spiral Modal of Software Development along with the diagram, strengths, and weaknesses. **(05)**

**Q3. Answer the following Questions**

**10 Marks**

- a) Define Functional and Non-functional Requirements. **(02)**
- b) Draw a Sequence Diagram for *Successful Login Scenario* by making use of all the components required. Mention assumptions, if any. **(03)**
- c) Consider the problem definition given below of a "Hotel Reservation System" and **draw Class Diagram** with relevant attributes. You may show relevant methods. Make and state suitable assumptions, if any. **(05)**

*The online system provides the information about types of rooms available and charges of each type of rooms. The customer can view the room facilities and other details about the room and book the room in advance by filling their personal details. While booking the customer has to register with the system to get the login details. While staying in the hotel customer can avail other facilities also like food, laundry, gym etc.... Customer can make payment either in cash or through card while checking out. The bill includes the room rental and other facility charges. The customer can be either general customer or sponsored customer. The sponsored customer has membership number and can avail free sightseeing for 2 days. The system also manages details of employees.*



**Q4. Answer the following Questions****10 Marks**

- a) Explain Interview or Brainstorming technique of Requirements Elicitation Process. (02)
- b) Explain Operational Feasibility study. (03)
- c) Consider the problem definition given below of a "Courseware Management System" and draw Use-case diagram. (05)

*The organization offers a variety of courses in a variety of areas such as DBMS, Software engineering etc.... Instructors in the organization are assigned courses to teach according to the area that they specialize in. The organization publishes and maintains a calendar of the different courses and the assigned tutors every year. The administrator in the organization manages the courses including course content, assign courses to tutors, manage registered students and design the course schedule. The users of the system have to login to the system before any processing can be done. The student can see the courses available according to schedule and register to the course s/he wants.*

**Q5. Answer the following Questions****10 Marks**

- a) Define event and transition with respect to UML State chart diagram. (02)
- b) Explain any 3 characteristics of SRS. (03)
- c) Consider the problem definition of "Hotel Reservation System" in Q3. c). A Customer wants to reserve a room after viewing the room details, doing registration, checking availability. Draw an activity diagram for "Booking the Room". (05)