Indian Institute of Information Technology, Lucknow
End Term Exam
Subject: Software Engineering (SEN3301C)
Mode: Individual   Date: 29-Nov-2024
Duration: 2PM to 5PM   Max Marks: 50

Note: The Marks will be appropriately scaled up/down to the final evaluation model.

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Student Branch: _CSB_
Student Roll Number: _LCB20213040._

Instructions:
1. Please enter your name, branch and roll number in the space provided.
2. All questions carry equal marks
3. All parts of a question should be answered **consecutively**. Each answer should start from a FRESH page.
4. Assumptions made if any, should be stated clearly at the beginning of your answer.
5. If the question asks for your opinion/recommendations - Please mention your recommendations in the FIRST LINE followed by justifications. Do NOT put your recommendations in the end
6. Marks will be deducted for providing irrelevant information in the answers
7. Your answers should be legible. Marks will be deducted for handwriting that is difficult to read.

Questions:

1. Answer the following related to "Use Cases" and Requirements
   a. What is a "Use case".
   b. What should a "Use Case" documentation contain?
   c. Provide an example (full example) of a "Use Case"
2. Answer the following related to SRS (Software Requirements Specification)
   a. What are NFR (Non Functional Requirements)
   b. What are State Transition Matrix and State Transition Diagrams
   c. How are Swim Lane Diagrams useful
3. Architecture Question
   a. Explain the various types of diagrams as part of the C4 Model.
   b. Provide a full example for each
4. Answer the following
   a. Explain the differences between Waterfall and Agile Software Development methodologies
   b. Explain how github is used for Configuration Management in Software Development
   c. Explain CI/CD
5. Explain the following related to TESTING and Quality
   a. What is Secure Software Development
   b. What is Threat Modelling
   c. Performance Testing
   d. Black Box Testing
   e. Test Automation