

Roll No.																			
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



**PRESIDENCY
UNIVERSITY**

BENGALURU

School of Computer Science and Engineering

Mid-Term Examinations - November 2024

Semester: III

Date: 07-11-2024

Course Code: CSE2014

Time: 09.30am to 11.00am

Course Name: Software Engineering

Max Marks: 50

Program: B. Tech

Weightage: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer All the Questions. Each question carries 2 marks.

5QX2M=10M

- | | | | | |
|----------|---|---------|----|-----|
| 1 | Identify the different types of software and describe their characteristics. | 2 Marks | L2 | C01 |
| 2 | Analyze two deficiencies in the spiral model and recommend a process model to address each deficiency | 2 Marks | L4 | C01 |
| 3 | Summarize the maturity levels in SEI's Capability Maturity Model and explain their significance. | 2 Marks | L2 | C01 |
| 4 | Distinguish between functional and non-functional requirements with examples. | 2 Marks | L2 | C02 |
| 5 | Construct a use case diagram for a Library Management System. | 2 Marks | L3 | C02 |

Part B

Answer All the Questions. Each question carries 10 marks.

4QX10M=40M

- | | | | | |
|----------|---|---------|----|-----|
| 6 | 6a. Outline the characteristics of software systems that differentiate them from hardware systems. | 3 Marks | L2 | C01 |
| | 6b. What is meant by a software process, and how does it guide the systematic development of software? What are the different types of software process flows, and how do they address various stages of the software lifecycle? | 7 Marks | L3 | C01 |

Or

7	7a. Describe the Evolutionary Process Models and explain how they differ from each other.	3 Marks	L2	C01
	7b. Explain Water fall Model. What are the problems that are sometimes encountered when the waterfall model is applied?	7 Marks	L2	C01
8	8a. Explain the core principles of the Software Development Life Cycle.	3 Marks	L2	C01
	8b. A software company is tasked with developing a simple inventory management system for a small retail store. The store owners have a clear understanding of their requirements and have provided detailed documentation of all functionalities they need. However, once the development process starts, they request that no major changes should be made to the scope of the project, as they are on a tight budget and timeline. Based on the above scenario: 1. Which SDLC model would be most suitable for this project? Justify your answer. 2. Outline the phases of the selected SDLC model as they would apply to this project. What could be the potential risks, if any?	7 Marks	L3	C01
Or				
9	9a. A company is developing a new banking app. Due to the complexity and high-security risks involved, they want to continuously assess and mitigate risks during development. Elaborate the suitability of the Spiral Model for this banking app project and explain how risk management is integrated into each cycle of the Spiral Model.	3 Marks	L4	C01
	9b. Describe each of the SDLC phases that go into creating software for an employee management system.	7 Marks	L2	C01
10	10a. Define requirement engineering? State its process and explain requirements elicitation Problem.	3 Marks	L2	C02
	10b. Use your knowledge of a movie ticket reservation system to identify actors and use cases and draw a use case diagram to depict the associations/Generalizations	7 Marks	L4	C02

Or

- | | | | | | |
|-----------|-------------|---|---------|----|-----|
| | 11a. | Based on your understanding of ATM transactions, explain the key interactions between users and the ATM system during various transactions. Identify the main actors and use cases that would be represented in a use case diagram. | 3 Marks | L3 | CO2 |
| 11 | 11b. | To help counter terrorism, many countries are planning or have developed computer systems that track large numbers of their citizens and their actions. Clearly this has privacy implications. Explain the ethics of working on the development of this type of system. | 7 Marks | L4 | CO2 |
| | 12a. | Describe the software quality attributes and explain why each attribute is important for successful software development. | 3 Marks | L2 | CO2 |
| 12 | 12b. | As a senior software developer, prepare an SRS document for a software system to be developed for online train ticket reservation system. | 7 Marks | L3 | CO2 |
| Or | | | | | |
| | 13a. | Design an activity diagram to illustrate the processes involved in an online shopping platform, such as Flipkart. | 3 Marks | L3 | CO2 |
| 13 | 13b. | Explain the key concepts of software design, including modularity, abstraction, functional Independence and encapsulation and describe their importance in software development. | 7 Marks | L2 | CO2 |