Sl. No.	Question	CO #
1	Discuss the need for Software Engineering and the Essence of SE Practice.	CO1
2	Differentiate between functional and non-functional requirements.	CO2
3	Describe the process of requirements validation.	CO2
4	Describe the symbols used in use case diagrams.	CO2
5	Illustrate the dynamic behavior of the system with the help of activity diagrams	CO2
6	You are starting a new project for a client who has a rapidly changing set of requirements. Your team is deciding whether to use Waterfall or other software process models for a project with well-defined requirements and a fixed deadline. What factors would influence your decision, and which software development process model would you choose, and why?	CO1
7	You are using the Spiral model for a project that involves high risk. How would you incorporate risk analysis and management into the iterative cycles of the Spiral model?	CO1
8	What are the different types of software? Explain	CO1
9	What is SDLC? What are its stages?	CO1
10	What are the disadvantages of classical waterfall model?	CO1
11	Explain types of nonfunctional requirements	CO2
12	Write the structure of requirements document as suggested by IEEE standards	CO2
13	Use your knowledge of a library management system and identify the user and system requirements	CO2
14	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	CO2
15	Software doesn't wear out. Explain?	CO1
16	Illustrate the main activities in the software design process and the outputs of these activities.	CO1
17	Who are the primary actor and secondary actors for a system? Give example	CO2
18	Explain why systems developed as prototypes should not normally be used as production systems.	CO1
19	Define a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and response time.	CO2
20	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.	CO1
21	Using your knowledge of how an ATM is used, illustrate a set of use cases that could serve as a basis for understanding the requirements for an ATM system.	CO2
22	List two deficiencies in waterfall model. Which process model do you suggest to overcome each deficiency?	CO1
23	Distinguish between the terms inception, elicitation and elaboration with reference to requirements.	CO2
24	Mention any two non-functional requirements of Food Ordering System.	CO2
25	How both waterfall model and prototyping model can be accommodated in the	CO1

	spiral process model? Give your answer.	
26	Draw the Activity diagram for a system in requirement elicitation.	CO2
27	Assume that you are the technical manager of a software development organization. A Client approached you for a software solution the problems stated by the client have uncertainties which lead to loss if it not planned and solved which software development model you will suggest for this project – justify. Explain that model With its pros and cons and neat sketch.	CO1
28	Classify the different types of checks carried out on the requirements in the requirements document during the validation process.	CO2
29	Write the IEEE definition of software engineering.	CO1
30	Summarize the pros and cons of iterative software development model.	CO1
31	Differentiate functional & non-functional requirements.	CO2
32	List the characteristics of software contrasting it with characteristics of hardware.	CO1
33	Draw the use case diagram for Library Management System	CO2
34	If you have to develop a word processing software product, what process model will you choose? Justify your answer and examine.	CO1
35	Narrate the importance of software specification of requirements.	CO2
36	List the ethics that a user and a software engineer to follow.	CO1
37	Explain scenario-based requirement modeling in software engineering?	CO2
38	List out the characteristics of a good SRS document.	CO2
39	Explain CMMI and its types.	CO1
40	Model an activity diagram to represent an online shopping platform like Amazon and FlipKart.	CO2
41	Compare and contrast between classical and iterative waterfall model with neat diagrams.	CO1
42	As a senior software developer prepare an SRS document for a software system to be developed for online train ticket reservation system.	CO2
43	What is the need for Software Engineering?	CO1
44	List the characteristics of a good SRS.	CO2
45	List any 2 components of a Use case diagram.	CO2
46	What are the eight principles on which Software Engineering ethics are based?	CO1
47	Explain briefly the basic components of an activity diagram.	CO2
48	As a Team Lead in a software development company, you have been assigned with a software project. Your team has a divided opinion on whether to follow classical or iterative waterfall model. You as the lead has this responsibility to explain classical waterfall model and how is this model different from Iterative waterfall model so that the team has an undivided opinion.	CO1
49	You are a final year student and as part of your capstone project your team is allotted with University Library Management System. Draw and explain the Use Case Diagram for this SUD explaining the associations, actors and use cases.	CO2
50	Write the IEEE definition of software engineering.	CO1
51	List two deficiencies in waterfall model.	CO1

52	Give the steps involved in initiating requirements engineering.	CO2
53	Discuss about the various drawbacks of spiral model	CO1
54	Differentiate functional and non-functional requirements.	CO2
55	What is a process model? Apply the process model that you would choose to manufacture a car. Explain giving suitable reasons.	CO1
56	Construct an online railway reservation system, which allows the user to select route, book/cancel tickets using net banking/credit/debit cards. The site also maintains the history of the passengers. For the above system, list and draw the use case scenario and model the above specification.	CO2
57	List the various umbrella activities of a software development process?	CO1
58	What is software Development Life cycle? List its activities.	CO1
59	List out 5 Non-Functional Requirements of Software Systems.	CO2
60	Outline the characteristics of software systems that differentiate them from hardware systems.	CO2
61	Summarize the common myths associated with software development.	CO1
62	Analyze Agile process models in software development. Discuss their core principles and methodologies, and evaluate advantages and disadvantages of these models.	CO1
63	What is Requirements Engineering (RE)? Describe the detailed process of RE, including its key phases and activities.	CO2
64	What are the different types of testing involved in system testing? Could you provide an overview of each type and its purpose in ensuring software quality?	CO1
65	What are the definitions of functional and non-functional requirements in software development? Could you explain their significance and how they differ from each other?	CO2
66	What are the differences between the Waterfall model, Iterative Waterfall model, and Evolutionary model in software development? Could you provide real-world examples to illustrate these distinctions?	CO1
67	Could you provide an explanation of the Rapid Application Development (RAD) model, including a real-time example? Additionally, what are the key advantages and disadvantages of using the RAD model in software development?	CO1
68	The user is requesting a use case diagram for an ATM transaction. Can you create a diagram illustrating the interactions between users and the ATM system during various transactions?	CO2
69	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?	CO1
70	The user is asking for an explanation of the Software Requirements Specification (SRS) format, including its structure and purpose. They would also like an example to illustrate the format. Could you provide a detailed explanation of the SRS with a relevant example?	CO2
71	State the steps in essence of software engineering practice	CO1
72	Define Unified Modeling Language. Mention the symbols used in preparing use case diagrams with its meanings.	CO2

73	Define functional and non- functional requirements. Give examples	CO2
74	Which process model is best suited for risk management? Give its any two advantages and disadvantages?	CO1
75	Briefly explain how are requirements validated?	CO2
76	List the process maturity levels in SEIs CMM.	CO1
77	For the scenario described below, which life cycle model would you choose? Give the reason why you would choose this model. You are interacting with the MIS department of a very large oil company with multiple departments. They have a complex regency system. Migrating the data from this legacy system is not an easy task and would take a considerable time. The oil company is very particular about processes, acceptance criteria and legal contracts.	CO1
78	Consider the process of ordering a pizza over the phone. Draw the use case diagram and also sketch the activity diagram representing each step of the process, from the moment you pick up the phone to the point where you start eating the pizza. Include activities that others need to perform. Add exception handling to the activity diagram you developed. Consider at least two exceptions.(Ex : Delivery person wrote down wrong address, deliver person brings wrong pizza).	CO2
79	Summarize the need for Software Engineering	CO1
80	Discuss the various software requirements in detail.	CO2
81	Illustrate Why elicitation and requirements analysis is a difficult process?	CO2
82	Describe the structure of software requirements specification as per IEEE.	CO2
83	Illustrate Why elicitation and requirements analysis is a difficult process? How it is carried out?	CO2
84	With neat diagram discuss the spiral model of software process. Illustrate how both the waterfall model of the software process and the prototyping model can be accommodated in the spiral process model.	CO1
85	With neat diagram discuss The staged CMMI model	CO1
86	List the characteristics of software contrasting it with characteristics of hardware.	CO1
87	Generalize on any two characteristics of software as a product.	CO1
88	List the characteristics of a good system requirements specification(SRS)	CO2
89	Explain about the umbrella activities which support software development process and Illustrate about their necessity in maintaining the quality in both software process and product that is being developed for railway reservation system.	CO1
90	Write short notes on the list given below (i) Requirements discovery and Interviewing. (ii) Scenarios and Use cases.	CO2
91	Summarize on the Hierarchical concept of user interface design and draw the swim lane diagram for prescription refill function.	CO2
92	To construct an online railway reservation system, which allows the user to select route, book/cancel tickets using net banking/credit/debit cards. The site also maintains the history of the passengers. For the above system, list and	CO2

	draw the use case scenario and model the above specification.	
93	List out the characteristics of a good SRS document.	CO2
94	Discuss the maturity levels in SEIs Capability Maturity Model.	CO1
95	Discuss the need of requirement validation.	CO2
96	Differentiate between functional and nonfunctional requirements with suitable examples.	CO2
97	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 suitable for this banking app project Explain how risk management is integrated into each cycle of the Spiral Model.	CO1
98	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?	CO1
99	A university is implementing a new "Online Course Registration System" that allows students to register for courses, view available courses, drop courses, and check their registration status. Faculty members can add or update course information, manage enrollment, and view student lists. Administrators have the ability to generate reports on course enrollments and modify the registration period. Draw a Use Case Diagram that represents the interactions between the actors and the system, showing the main use cases for students, faculty members, and administrators.	CO2
100	What are the characteristics of the software?	CO1
101	Define requirement engineering.	CO2
102	What are the drawbacks of spiral model?	CO1
103	Name the Evolutionary process Models.	CO1
104	List the process maturity levels in SEIs CMM.	CO1
105	Describe each of the SDLC phases that go into creating software for an employee management system.	CO1
106	Explain Water Fall in Detail with Neat Diagram	CO1