



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: Software Engineering (20CS0518)

Course & Branch: B.Tech – CSE and allied

Year & Sem : III B.Tech & I-Sem

Regulation : R20

UNIT –I

INTRODUCTION AND INTRODUCTION TO AGILITY

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|-----------|----------|--|------------------|--------------|
| 1 | a | Define Software and describe the characteristics of software. | [L2][CO1] | [6M] |
| | b | Write in detail about the nature of software. | [L1][CO1] | [6M] |
| 2 | a | What is Software Process? Distinguish any two Process Models. | [L4][CO2] | [6M] |
| | b | How Process framework is created for software? Explain. | [L2][CO1] | [6M] |
| 3 | | Discuss briefly about different types of Software Myths. | [L2][CO1] | [12M] |
| 4 | a | How umbrella activities help in solving a software problem? Explain. | [L2][CO1] | [6M] |
| | b | Distinguish between Application Software and System Software with examples | [L4][CO1] | [6M] |
| 5 | a | Define the term Software Engineering – A Layered Technology | [L1][CO1] | [6M] |
| | b | How principles of Software Engineering help in building a software | [L2][CO1] | [6M] |
| 6 | | For what kind of software Spiral model is used? Examine in detail about it. | [L3][CO1] | [12M] |
| 7 | a | What is an Iterative Model? How Iterative is best than classical life cycle model. Explain | [L2][CO1] | [6M] |
| | b | What is SDLC? How it is used in Software Development Process? | [L2][CO2] | [6M] |
| 8 | a | Dissect in brief about Unified Process Model with neat diagram. | [L4][CO2] | [6M] |
| | b | Who is Scrum Master? What is his/her role in Scrum Model. Explain with a neat diagram. | [L2][CO2] | [6M] |
| 9 | | What is Agile Process? How Extreme Programming (XP) is an effective agile Model? Explain with neat sketch. | [L2][CO2] | [12M] |
| 10 | a | What is Agility? Illustrate any four Agile Process Models. | [L3][CO2] | [6M] |
| | b | Write a note on Agile Unified Process. | [L1][CO2] | [6M] |

UNIT –II**REQUIREMENTS ANALYSIS AND SPECIFICATION**

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|-----------|---|------------------|--------------|
| 1 | Define Requirement Engineering. Examine the steps involved in RE Process. | [L4][CO1] | [12M] |
| 2 | a Who is a stakeholder? In what way he/she is being used in Software Development Process. | [L1][CO2] | [6M] |
| | b How to establish the groundwork for understanding of software requirements. Explain the steps in it. | [L2][CO2] | [6M] |
| 3 | a Illustrate Eliciting Requirements and narrate the steps in it in detail. | [L3][CO1] | [6M] |
| | b What is Functional and Non-Functional Requirements? How is collected and differentiated. Explain | [L2][CO1] | [6M] |
| 4 | a How Use-Case are developed from collected requirements. Devise with an example of use-case diagram. | [L4][CO3] | [6M] |
| | b What are the elements in Requirement Model. How it helps in Analyzing the Requirements? | [L2][CO1] | [6M] |
| 5 | a Why Requirement Negotiation is important? Discuss in detail | [L4][CO1] | [6M] |
| | b What kind of questions were addressed by Requirement team while validating the requirements? | [L1][CO1] | [6M] |
| 6 | a What is the need of Requirements Analysis and how it is done? Explain the steps in it. | [L2][CO1] | [6M] |
| | b Discuss Domain analysis in detail with a neat sketch. | [L3][CO3] | [6M] |
| 7 | a Justify the approaches in Requirements Modeling with diagram | [L5][CO1] | [6M] |
| | b Differentiate Behavioral Model Vs Structural Model | [L4][CO3] | [6M] |
| 8 | a What is Scenario-Based Modeling? Devise with an example | [L4][CO3] | [6M] |
| | b Examine Scenario-Based Modeling with suitable examples. | [L3][CO3] | [6M] |
| 9 | a What are all the UML Models that supplement the Use-case diagram? Explain. | [L2][CO3] | [6M] |
| | b Explain in detail about Data Modeling Concepts. | [L2][CO3] | [6M] |
| 10 | a Construct Class-Based Modeling briefly. | [L3][CO3] | [6M] |
| | b Explain how to create a Behavioral Model with a use case diagram. | [L2][CO3] | [6M] |

UNIT –III**DESIGN CONCEPTS AND ARCHITECTURAL DESIGN**

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|-----------|----------|---|------------------|--------------|
| 1 | a | What is the Design process? Discuss software quality guidelines and attributes | [L2][CO3] | [6M] |
| | b | Explain common characteristics in the evolution of software design. | [L2][CO1] | [6M] |
| 2 | | Determine software design concepts in detail. | [L3][CO3] | [12M] |
| 3 | a | Describe a Design model with various kinds of elements | [L2][CO3] | [6M] |
| | b | Prioritize the Quality Attributes in Software Design | [L4][CO3] | [6M] |
| 4 | a | How Software Quality Guidelines is framed? List out the guidelines | [L2][CO3] | [6M] |
| | b | Identify Design patterns. What is the intent of each design pattern | [L3][CO3] | [6M] |
| 5 | a | Devise to assess alternate Architectural design. | [L4][CO3] | [6M] |
| | b | Why Cohesion and Coupling is used in Software Design Process. What are the types in it. Differentiate all the types | [L4][CO3] | [6M] |
| 6 | a | Distinguish between Analysis Model and Design Model | [L5][CO4] | [6M] |
| | b | What is UI Design? Why it is so important? | [L4][CO4] | [6M] |
| 7 | | Describe architectural genres for software-based systems. | [L2][CO4] | [12M] |
| 8 | | Express the various types of Architectural styles briefly. | [L6][CO4] | [12M] |
| 9 | | Discuss briefly about Architectural design and their tasks. | [L2][CO4] | [12M] |
| | a | Justify the Assessing of Alternative Architectural Designs for Software | [L5][CO4] | [6M] |
| 10 | b | Write down the steps in refining the Architecture into Components | [L2][CO4] | [6M] |

UNIT –IV**USER INTERFACE DESIGN AND WEB APP DESIGN**

1	Briefly explain about golden rules in the user interface design.	[L2][CO4]	[12M]
2	a Devise the golden rules to form the basis for a set of user interface design principles.	[L4][CO4]	[6M]
	b Design the swim-lane diagram for ATM system	[L6][CO3]	[6M]
3	a Briefly explain about User Interface Design Process	[L2][CO4]	[6M]
	b Express the rules of User Interface Design.	[L2][CO4]	[6M]
4	a Explain in detail about Task Analysis and Modeling	[L2][CO2]	[6M]
	b Write a short note on	[L2][CO3]	[6M]
	(i) Analysis of the Work Environment		
	(ii) Analysis of Display Content		
4	Dissect in brief about the various steps of Interface Design.	[L4][CO5]	[12M]
5	Examine the elements of interface analysis with examples.	[L3][CO5]	[12M]
6	a Explain Interface Design workflow for WebApps.	[L2][CO5]	[6M]
	b Organize the steps involved in WebApp Interface Design.	[L4][CO5]	[6M]
7	a Define five quality attributes of WebApp Design.	[L1][CO5]	[6M]
	b Explain in detail about Aesthetic design.	[L2][CO5]	[6M]
8	Write a short note on Content Design.	[L2][CO3]	[12M]
9	Give detailed notes on architecture design.	[L2][CO5]	[12M]
10	a Dissect in brief about the various steps of Navigation Design.	[L4][CO5]	[6M]
	b Examine the elements of component level design.	[L3][CO5]	[6M]

UNIT –V**TESTING AND TESTING CONVENTIONAL APPLICATIONS**

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|-----------|----------|--|------------------|--------------|
| 1 | a | Distinguish between Verification and Validation with example | [L5][CO4] | [6M] |
| | b | What is Software Testing? Why it is important before deploying the software. | [L4][CO5] | [6M] |
| 2 | a | Explain in brief about the levels/steps in Software Testing | [L2][CO4] | [6M] |
| | b | Discriminate the strategic approach to software testing. | [L5][CO5] | [6M] |
| 3 | | Explain about the importance of test strategies in conventional software. | [L2][CO5] | [12M] |
| 4 | | Explain in brief about System Testing. How it differs from Validation Testing. | [L2][CO6] | [12M] |
| 5 | a | Discuss the process of Art of Debugging. | [L2][CO5] | [6M] |
| | b | Difference between Alpha and Beta testing? | [L4][CO6] | [6M] |
| 6 | a | Write a short note on fundamentals of software testing. | [L2][CO4] | [6M] |
| | b | Identify the Object-Oriented Testing Methods and Explain | [L3][CO6] | [6M] |
| 7 | | Explain in detail about Black box testing with its types | [L2][CO6] | [12M] |
| 8 | | Describe briefly about White box testing with its types | [L2][CO6] | [12M] |
| 9 | a | What are the Testing Methods applicable at the Class Level? Explain. | [L1][CO6] | [6M] |
| | b | Illustrate Testing Strategies for Object Oriented software | [L3][CO6] | [6M] |
| 10 | a | How to test Specialized Environments, Architectures and Applications. | [L2][CO6] | [6M] |
| | b | Describe interclass test case design. | [L2][CO6] | [6M] |

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