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INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal, Hyderabad -500 043

INFORMATION TECHNOLOGY

TUTORIAL QUESTION BANK

Course Name	:	**SOFTWARE ENGINEERING**
Course Code	:	AITB26
Class	:	IV Semester
Branch	:	Information Technology
Year	:	2019 – 2020
Course Faculty	:	Ms. B Dhanalaxmi, Assistant Professor Mr. G Chandra Sekhar, Assistant Professor

COURSE OVERVIEW:

The Present course concentrates on developing basic understanding about various activities that are involved in a software development. This course enables the student to develop necessary skills for developing a product or applications. The course focuses on all activities involved in software development (communication, planning, modeling, construction, deployment).In this course; students will gain a broad understanding of the discipline of software engineering and its application to the development and management of software systems. Student can implement and get knowledge about development of the software and gains knowledge of basic engineering methods and practices, and their appropriate application. A general understanding of software process models such as the waterfall and evolutionary models. An understanding of the role of project management including planning, scheduling, risk management, etc. An understanding of software requirements and the SRS document and different software architectural styles, implementation issues such as modularity and coding standards. An understanding of approaches to verification and validation including static analysis, and reviews.

COURSE OBJECTIVES:
The course should enable the students to:

	The course should enable the students to:
I	Learn how to elicitate requirements and develop software life cycles.
II	Understand the design considerations for enterprise integration and deployment.
III	Analyze quality assurance techniques and testing methodologies.
IV	Prepare a project plan for a software project that includes estimates of size and effort, a schedule, resource allocation, configuration control, and project risk.

COURSE LEARNING OUTCOMES (CLOs):

Students, who complete the course, will have demonstrated the ability to do the following:

SI. No.	Description
AITB26.01	Understand the key concerns that are common to all software development processes.
AITB26.02	Identify the appropriate process models, approaches and techniques to manage a given software development process.
AITB26.03	Identify the approach to risks management through risk identification, risk measurement and risk mitigation.
AITB26.04	Use the concept of Earned Value Analysis (EVA) to measure the projects progress at any given point in time, forecasting its completion date and final cost, and analyzing variances in the schedule and budget as the project proceeds.
AITB26.05	Memorize project planning activities that accurately help in selection and initiation of individual projects and of portfolios of projects in the enterprise.
AITB26.06	Identify dependability and security issues that affect a given software product.
AITB26.07	Use the concept of classical analysis to determine the acceptance criteria as part of specification.
AITB26.08	Memorize the importance of eliciting the requirements for a software product and translate these into
AITB26.09	Understand the concept of data dictionary in order to manage the details in large-scale systems, to locate errors and omissions in the system.
AITB26.10	Understand the concept of petri nets that exhibit concurrency, synchronization and used as a visual communication aid to model the system behavior.
AITB26.11	Memorize the design of object oriented software using with the aid of a formal system modeling notation.
AITB26.12	Learn to model the structure and behavior of a software system.
AITB26.13	Memorize different architectural styles, patterns and architectural mapping using data
AITB26.14	Understand the principles of graphical user interface design.
AITB26.15	Understand the concept of component-level design used to define interface characteristics and communication mechanisms for each software component identified in the architectural design.
AITB26.16	Understand the importance of testing with the performance of root cause analysis.
AITB26.17	Memorize the concepts of software testing approaches such as unit testing and integration testing.
AITB26.18	Understand the approaches to verification and validation including static analysis and reviews.
AITB26.19	Identify the major differences between white box testing and black box testing.
AITB26.20	Understand the importance of refactoring which improves the performance of non functional attributes of the software.
AITB26.21	Learn to manage time, processes and resources effectively by prioritizing competing demands to achieve personal and team goals.
AITB26.22	Use a proactive, structured risk assessment and analysis activity to identify and analyze root causes.
AITB26.23	Understand the concept of risk management through risk identification, risk measurement and mitigation.
AITB26.24	Memorize the relationship between people and effort.
AITB26.25	Identify the importance of earned value analysis related to project scheduling and also understand the various process and project metric used to improve the quality of software.

TUTORIAL QUESTION BANK

S. No	QUESTION	Blooms Taxonomy Level	Course Outcomes (CO)	Course Learning Outcomes (CLO)
UNIT - I **SOFTWARE PROCESS AND PROJECT MANAGEMENT**			
	Part - A (Short Answer Questions)			
1	List out all the applications of software	Remember	CO 1	AITB26.01
2	Compare the types of software myths?	Remember	CO 1	AITB26.02
3	List out all the umbrella activities in process framework	Understand	CO 1	AITB26.03
4	Design the software process?	Remember	CO 1	AITB26.04
5	List out the different layers of software engineering.	Understand	CO 1	AITB26.05
6	Demonstrate about the process pattern?	Remember	CO 1	AITB26.01
7	List out the types of software process models.	Understand	CO 1	AITB26.02
8	Design various steps involved in identifying a Task Set	Remember	CO 1	AITB26.03
9	Demonstrate the importance of process patterns in designing a module.	Remember	CO 1	AITB26.04
10	Describe the template for process patterns.	Remember	CO 1	AITB26.05
11	List out the different advantages of waterfall model.	Understand	CO 1	AITB26.03
12	Demonstrate different disadvantages of waterfall model.	Remember	CO 1	AITB26.04
13	Illustrate various problems of prototyping process model.	Remember	CO 1	AITB26.05
14	Describe the use of incremental process model	Understand	CO 1	AITB26.01
15	List out the disadvantages of spiral model	Understand	CO 1	AITB26.02
16	Describe about component based development.	Remember	CO 1	AITB26.03
17	Demonstrate how software cost is estimated.	Understand	CO 1	AITB26.04
18	Summarize the use of COCOMO model?	Understand	CO 1	AITB26.05
19	Describe about project scheduling?	Understand	CO 1	AITB26.01
20	Demonstrate the concept of earned value analysis.	Remember	CO 1	AITB26.02
21	Illustrate about risk management techniques used in any project development process.	Understand	CO 1	AITB26.03
	Part - B (Long Answer Questions)			
1	Describe about the evolving role of software.	Remember	CO 1	AITB26.01
2	Demonstrate the concept of software and explain the various characteristics of software.	Remember	CO 1	AITB26.02
3	Express your views on "Software myth"? Discuss on various types of software myths and the true aspects of these myths.	Remember	CO 1	AITB26.03
4	Illustrate about software Engineering? Explain the layered technology of software engineering.	Understand	CO 1	AITB26.04
5	Describe with the help of a diagram, explain in detail waterfall model. Give certain reasons for its failure.	Understand	CO 1	AITB26.05
6	Illustrate the use of incremental process model with neat diagram.	Understand	CO 1	AITB26.01

7	Summarize briefly about Evolutionary process models with neat diagram.	Remember	CO 1	AITB26.02
8	Describe briefly about the Spiral model with neat sketch.	Understand	CO 1	AITB26.03
9	Describe the use of concurrent development model (or) concurrent engineering model.	Understand	CO 1	AITB26.04
10	Demonstrate about Component- Based Development model.	Understand	CO 1	AITB26.05
11	Illustrate briefly about Aspect-Oriented Software Development model.	Remember	CO 1	AITB26.01
12	Explore the importance of Estimation? Explain its importance with examples.	Understand	CO 1	AITB26.02
13	Describe in detail about LOC-based and FP-based estimation with an example.	Understand	CO 1	AITB26.03
14	Describe COCOMO model and explain its importance.	Understand	CO 1	AITB26.04
15	Elucidate the importance of scheduling? Explain the importance of scheduling in software development.	Remember	CO 1	AITB26.05
16	Explore the importance of earned value analysis with suitable example.	Understand	CO 1	AITB26.01
17	Describe about risk mitigation? Explain about reactive versus proactive risk strategies.	Remember	CO 1	AITB26.02
18	Explore the importance of different software risks.	Understand	CO 1	AITB26.03
19	Demonstrate about waterfall model and who invented waterfall model	Understand	CO 1	AITB26.01
20	List out the three types of process patterns, with suitable examples.	Remember	CO 1	AITB26.02

Part - C (Problem Solving and Critical Thinking Questions)

1	Develop a set of actions for the communication activity. Select one action and define a task set for it.	Understand	CO 1	AITB26.01
2	Analyze if it is possible to combine process models? If so, provide an example.	Understand	CO 1	AITB26.02
3	Explore the advantages and disadvantages of developing software in which quality is "good enough"?	Remember	CO 1	AITB26.03
4	Describe why systems developed as prototypes should not normally be used as production systems.	Understand	CO 1	AITB26.04
5	Demonstrate the difference between traditional Waterfall model and Agile testing?	Understand	CO 1	AITB26.04
6	Describe the Iterative and Incremental Development in Agile?	Understand	CO 1	AITB26.04
7	Justify your methodology how to deal when requirements change frequently?	Understand	CO 1	AITB26.04
8	Compare how Agile Methodology different than Traditional Waterfall process?	Understand	CO 1	AITB26.04
9	Illustrate difference between incremental and iterative development? Discuss.	Understand	CO 1	AITB26.04
10	Describe a time when your Delivery team members didn't seem to be getting along. How did you handle this?	Understand	CO 1	AITB26.04

UNIT - II
REQUIREMENTS ANALYSIS AND SPECIFICATION
Part – A (Short Answer Questions)

1	Describe different types of system requirements?	Understand	CO 2	AITB26.06
2	List out functional requirements?	Understand	CO 2	AITB26.07

3	List out nonfunctional requirements?	Understand	CO 2	AITB26.08
4	Describe about domain requirements?	Remember	CO 2	AITB26.09
5	List different kinds of organizational requirements?	Remember	CO 2	AITB26.10
6	Enumerate functional requirement with an example?	Understand	CO 2	AITB26.06
7	Demonstrate the user requirements in detail?	Understand	CO 2	AITB26.07
8	Examine the need for system requirement.	Remember	CO 2	AITB26.08
9	Describe about requirement validation?	Understand	CO 2	AITB26.09
10	Elucidate about requirement engineering process	Remember	CO 2	AITB26.10
11	Demonstrate about requirement discovery	Remember	CO 2	AITB26.06
12	Extend about Requirements classification and organization.	Understand	CO 2	AITB26.07
13	Compare functional and non functional requirements.	Remember	CO 2	AITB26.08
14	Demonstrate the use of Ethnography technique.	Understand	CO 2	AITB26.09
15	Demonstrate the need for Scenarios with a suitable example.	Remember	CO 2	AITB26.10
16	List out the characteristics of Effective interviewers.	Understand	CO 2	AITB26.06
17	State an example for requirement validation.	Remember	CO 2	AITB26.07
18	Describe various types of validation techniques that can be used individually or in conjunction with one another:	Understand	CO 2	AITB26.08
19	summarize about Requirements management planning	Remember	CO 2	AITB26.09
20	Demonstrate about Requirements change management.	Remember	CO 2	AITB26.10
21	Describe the importance of requirement review?	Understand	CO 2	AITB26.06
22	Examine the need for data dictionary with an example?	Understand	CO 2	AITB26.07
23	Elaborate about data flow model?	Understand	CO 2	AITB26.08
24	Describe about Data dictionary in the process of requirements analysis, state machine model of a microwave oven?	Remember	CO 2	AITB26.09
25	List out the kinds of behavioral and object models?	Understand	CO 2	AITB26.10
26	Design the class hierarchy for library by using inheritance model?	Remember	CO 2	AITB26.06
27	List out the different examples for non functional requirements.	Understand	CO 2	AITB26.07
28	Describe about Structured system analysis	Remember	CO 2	AITB26.08
29	State the importance of data dictionary in classical analysis.	Understand	CO 2	AITB26.09
30	Analyze the concept of petri nets?	Understand	CO 2	AITB26.10
Part - B (Long Answer Questions)				
1	What is requirement? Explain about user requirements with an example.	Understand	CO 2	AITB26.06
2	Explain briefly about functional requirements with an example.	Remember	CO 2	AITB26.07
3	Discuss in detail about non-functional requirements with an example.	Remember	CO 2	AITB26.08
	Compare and contrast functional requirements and non-functional requirements.	Understand	CO 2	AITB26.09
4	What are system requirements? Explain in a detail.	Understand	CO 2	AITB26.10
5	Explain briefly about The software requirements document.	Remember	CO 2	AITB26.06
6	Discuss about requirement engineering process.	Understand	CO 2	AITB26.07
7	Discuss briefly how requirement validation is done?	Understand	CO 2	AITB26.08
8	Explain how requirements are managed in software project management.	Understand	CO 2	AITB26.09
9	Discuss in detail about requirement discovery with an example.	Understand	CO 2	AITB26.10

10	What is interviewing? Explain different types of interviews.	Remember	CO 2	AITB26.06
11	Write short notes on requirement specification with an example.	Remember	CO 2	AITB26.07
12	Define the importance of natural language specification with an example.	Understand	CO 2	AITB26.08
13	Discuss how requirements are elucidated and validated in software project.	Understand	CO 2	AITB26.09
14	Demonstrate the uses of Use cases in requirements elicitation and analysis with an example.	Remember	CO 2	AITB26.10
15	What is Ethnography? Explain its importance.	Understand	CO 2	AITB26.06
16	Discuss how feasibility studies are important in requirement engineering process.	Remember	CO 2	AITB26.07
17	Why and how requirements validation is done in software development.	Understand	CO 2	AITB26.08
18	What do you mean by structured system analysis? Elaborate.	Understand	CO 2	AITB26.09
19	Discuss in detail the need of petri nets, with an example.	Remember	CO 2	AITB26.10
20	Define Data dictionary. Give the importance of data dictionary with an suitable example.	Understand	CO 2	AITB26.06
Part – C (Problem Solving and Critical Thinking)				
1	Identify various functional and non functional requirements that may be defined for library based system.	Remember	CO 2	AITB26.08
2	List out user requirements for the following functions a) Cash dispensing function in a bank ATM. b) Spelling check and correcting function in a word processor	Understand	CO 2	AITB26.09
3	Write a set of non-functional requirements for the ticket-issuing system, setting out its expected reliability and response time.	Understand	CO 2	AITB26.10
4	Discuss the functionality of an ATM machine and develop a set of use cases that could serve as a basis for understanding the requirements for an ATM system.	Understand	CO 2	AITB26.06
5	Explain who should be involved in requirements review? draw a process model showing how a requirements review might be Organized.	Understand	CO 2	AITB26.07
6	Identify various functional and non functional requirements that may be defined for Hotel management system.	Remember	CO 2	AITB26.08
7	Explain the importance of requirements management and its uses with suitable examples.	Understand	CO 2	AITB26.09
8	"Consider a system where, a heat sensor detects an intrusion and alerts the security company." What kind of a requirement the system is providing?	Understand	CO 2	AITB26.10
9	Write a set of non-functional requirements for library management system, setting out its expected reliability and response time.		CO 2	AITB26.06
10	Discuss the functionality of an ATM machine and develop a set of use cases that could serve as a basis for understanding the requirements for an ATM system.	Understand	CO 2	AITB26.07
UNIT-III **SOFTWARE DESIGN**				

	Part – A (Short Answer Questions)			
1	Illustrate why design is important in software engineering	Remember	CO 3	AITB26.11
2	Describe analysis and design model	Understand	CO 3	AITB26.12
3	Describe about software quality guidelines	Understand	CO 3	AITB26.13
4	Summarize how we assess the quality of a software design	Remember	CO 3	AITB26.14
5	List the characteristics that are common to all design methods?	Understand	CO 3	AITB26.15
6	Identify the importance of Abstraction with suitable examples?	Understand	CO 3	AITB26.11
7	Explore the importance of design pattern with suitable examples?	Remember	CO 3	AITB26.12
8	Explore about the modularity in design concepts.	Understand	CO 3	AITB26.13
9	Describe the concept of Information Hiding and Functional Independence.	Remember	CO 3	AITB26.14
10	Explore the importance of refactoring in software design.	Understand	CO 3	AITB26.15
11	Summarize about design classes in software design.	Understand	CO 3	AITB26.11
12	Describe about interface design elements in the design model.	Remember	CO 3	AITB26.12
13	Explore on component level and deployment level design elements.	Remember	CO 3	AITB26.13
14	Describe software architecture with its importance.	Understand	CO 3	AITB26.14
15	Summarize on architectural descriptions with suitable examples?	Remember	CO 3	AITB26.15
16	Describe taxonomy of architectural styles.	Understand	CO 3	AITB26.11
17	Summarize about architecture patterns.	Remember	CO 3	AITB26.12
18	Demonstrate about representing the system in context.	Understand	CO 3	AITB26.13
19	Illustrate the roles of archetypes in architectural design.	Remember	CO 3	AITB26.14
20	Describe about architectural mapping using data flow.	Understand	CO 3	AITB26.15
21	Explore about user interface design?	Understand	CO 3	AITB26.11
22	Demonstrate the importance of user analysis	Remember	CO 3	AITB26.12
23	Describe about Use cases and Task elaboration	Remember	CO 3	AITB26.13
24	Describe Workflow analysis	Understand	CO 3	AITB26.14
25	Define various User interface design steps	Understand	CO 3	AITB26.15
26	Describe any three user interface design issues	Remember	CO 3	AITB26.11
27	List out the golden rules for interface design	Understand	CO 3	AITB26.12
28	Describe about a component?	Understand	CO 3	AITB26.13
29	Identify what belongs to a component according to object oriented view	Remember	CO 3	AITB26.14
30	List any two basic design principles that are applicable to component-level design	Understand	CO 3	AITB26.15
31	What should we consider when we name components?	Remember	CO 3	AITB26.11
32	Summarize cohesion	Remember	CO 3	AITB26.12
33	Describe coupling? Explain different categories of coupling	Understand	CO 3	AITB26.13
34	List out the steps for conducting component level design	Remember	CO 3	AITB26.14
35	Describe the importance of graphical design notation in designing class based components	Understand	CO 3	AITB26.15
36	List the various steps to develop a decision table.	Understand	CO 3	AITB26.11
37	Describe program design language? Discuss in detail.	Remember	CO 3	AITB26.12

38	Justify why control components are necessary in traditional software and generally not required in object-oriented software?	Remember	CO 3	AITB26.13
Part – B (Long Answer Questions)				
1	Describe about the design process and also explain its characteristics.	Understand	CO 3	AITB26.11
2	Describe the following fundamental concepts of software design: i) Abstraction ii) Modularity iii) Information hiding.	Remember	CO 3	AITB26.12
3	Illustrate the importance of design classes. Explain different types of design classes.	Remember	CO 3	AITB26.13
4	Describe architectural design elements and interface design elements in detail.	Understand	CO 3	AITB26.14
5	Illustrate the importance of component level design and deployment level design elements.	Understand	CO 3	AITB26.15
6	Describe software architecture? Why it is important explain with an example.	Understand	CO 3	AITB26.11
7	Describe transform mapping with an example	Understand	CO 3	AITB26.12
8	Demonstrate the importance of Archetypes with an example.	Remember	CO 3	AITB26.13
9	Describe different architectural styles in detail.	Remember	CO 3	AITB26.14
10	Demonstrate how a system represent in architectural context with an example.	Remember	CO 3	AITB26.15
11	Illustrate the golden rules for the user interface design.	Understand	CO 3	AITB26.11
12	Illustrate the importance of task analysis and modeling.	Remember	CO 3	AITB26.12
13	Describe user interface design patterns with an example in detail.	Remember	CO 3	AITB26.13
14	Illustrate different common design issues in user interface design.	Understand	CO 3	AITB26.14
15	List the basic design principles for designing class based components.	Remember	CO 3	AITB26.15
16	Describe Cohesion? Explain its importance in designing class based components.	Understand	CO 3	AITB26.11
17	Describe Coupling and also explain different categories of Coupling.	Remember	CO 3	AITB26.12
18	Compare and contrast Coupling and Cohesion in designing class based components.	Understand	CO 3	AITB26.13
19	Describe about graphical design notation in designing traditional components.	Remember	CO 3	AITB26.14
20	Illustrate the necessary steps to build decision table in designing traditional components.	Understand	CO 3	AITB26.15
Part – C (Problem Solving and Critical Thinking)				
1	Identify how do we assess quality of a software design?	Understand	CO 3	AITB26.11
2	Describe the design pattern that you encounter in a category of everyday things.	Understand	CO 3	AITB26.12
3	Illustrate the examples of three data abstractions and the procedural abstractions that can be used to manipulate them.	Understand	CO 3	AITB26.13
4	Demonstrate the architecture of a house or building as a metaphor, Draw comparison with software architecture.	Understand	CO 3	AITB26.14
5	Summarize how are the disciplines of classical architecture and software architecture similar? How do they differ?	Understand	CO 3	AITB26.11
6	Identify which view in architectural design shows the key	Remember	CO 3	AITB26.12

	abstractions in the system as objects or object classes?			
7	List any 5 key activities in an object oriented design process?	Remember	CO 3	AITB26.13
8	Identify which view in architectural design shows the key abstractions in the system as objects or object classes?	Remember	CO 3	AITB26.14
9	Justify what Gamma et al suggest to the four essential elements of a design pattern?	Remember	CO 3	AITB26.11
10	Demonstrate how to design architecture to achieve Non-Functional requirements in the area of Software Architecture?	Remember	CO 3	AITB26.12

UNIT-IV TESTING AND IMPLEMENTATION				
1	Describe the characteristics of testability?	Understand	CO 4	AITB26.16
2	List various test characteristics.	Remember	CO 4	AITB26.17
3	Describe short notes on internal and external views of testing.	Understand	CO 4	AITB26.18
4	Describe white box testing?	Understand	CO 4	AITB26.19
5	Describe the importance of graph matrices in basis path testing.	Remember	CO 4	AITB26.20
6	Illustrate different steps that can be applied to derive the test cases.	Understand	CO 4	AITB26.16
7	Describe loop testing? Write a short notes on loop testing.	Understand	CO 4	AITB26.17
8	Describe condition testing and data flow testing.	Remember	CO 4	AITB26.18
9	Compare verification and validation?	Understand	CO 4	AITB26.19
10	Demonstrate about boundary value analysis in black box testing.	Remember	CO 4	AITB26.20
11	Describe graph-based testing methods in detail.	Remember	CO 4	AITB26.16
12	Describe regression testing?	Understand	CO 4	AITB26.17
13	Describe unit testing and explain its environment.	Understand	CO 4	AITB26.18
14	Demonstrate the use of integration testing? Explain its types.	Remember	CO 4	AITB26.19
15	Describe alpha and beta testing.	Understand	CO 4	AITB26.20
16	Describe stress and performance testing.	Understand	CO 4	AITB26.16
17	Describe debugging process.	Remember	CO 4	AITB26.17
18	Demonstrate various debugging strategies.	Remember	CO 4	AITB26.18
19	Illustrate the importance of refactoring technique in software implementation.	Understand	CO 4	AITB26.19
20	Describe coding practices.	Understand	CO 4	AITB26.20
Part – B (Long Answer Questions)				
1	Illustrate the importance of test strategies for conventional software.	Understand	CO 4	AITB26.16
2	Describe testing? Discuss in detail about Black-Box testing.	Remember	CO 4	AITB26.17
3	Compare and contrast black box testing and White Box testing.	Understand	CO 4	AITB26.18
4	Describe path testing and explain its importance.	Remember	CO 4	AITB26.19
5	Describe control structure testing.	Understand	CO 4	AITB26.20
6	Describe system testing? Explain briefly about system testing.	Understand	CO 4	AITB26.16
7	Describe the art of debugging.	Remember	CO 4	AITB26.17
8	Demonstrate the importance of validation testing?	Understand	CO 4	AITB26.18
9	Describe regression and white box testing.	Remember	CO 4	AITB26.19

10	Describe various software implementation techniques.	Understand	CO 4	AITB26.20
11	Compare test scenarios, test cases, and test script?	Understand	CO 4	AITB26.20
12	Identify the two parameters which can be useful to know the quality of test execution? Explain.	Remember	CO 4	AITB26.19
13	Describe what is testing type and what is the commonly used testing type?	Understand	CO 4	AITB26.18
14	Identify the things we need to consider while monitoring your project? explain	Understand	CO 4	AITB26.18
15	Demonstrate what a typical test report contain? What are the benefits of test reports?	Remember	CO 4	AITB26.19
16	Compare Test matrix and Traceability matrix?	Understand	CO 4	AITB26.20
17	Describe "Test Plan Driven" or "Key Word Driven" method of testing?	Understand	CO 4	AITB26.16
18	Illustrate the main advantages of statement coverage metric of software testing are?	Remember	CO 4	AITB26.17
19	Identify the difference between a "defect" and a "failure" in software testing is?	Understand	CO 4	AITB26.16
20	Demonstrate how to test documents in a project that span across the software development lifecycle?	Remember	CO 4	AITB26.17
Part – C (Problem Solving and Critical Thinking)			
1	Justify who should perform the validation test—the software developer or the software user?	Understand	CO 4	AITB26.16
2	Design a complete test strategy for the SafeHome system.	Understand	CO 4	AITB26.17
3	Describe the difference between verification and validation.	Remember	CO 4	AITB26.18
4	Justify whether unit testing possible or even desirable in all circumstances with examples?	Remember	CO 4	AITB26.19
5	Demonstrate the different types of test coverage techniques are?	Understand	CO 4	AITB26.16
6	Demonstrate the basic components of defect report format are?	Understand	CO 4	AITB26.17
7	Describe in a testing project what testing activities would you automate?	Remember	CO 4	AITB26.18
8	Compare preventative and reactive approaches to testing?	Remember	CO 4	AITB26.19
9	Identify whether the following defines the expected results of a test either by test case specification or test design specification. Explain.	Understand	CO 4	AITB26.16
10	Illustrate the difference between Testing Techniques and Testing Tools?	Understand	CO 4	AITB26.17
UNIT-V PROJECT MANAGEMENT			
Part - A (Short Answer Questions)			
1	Describe estimation.	Understand	CO 5	AITB26.21
2	Illustrate an example of LOC-based cost estimation	Remember	CO 5	AITB26.22
3	Describe FP-based cost estimation	Remember	CO 5	AITB26.23
4	Describe outsourcing.	Remember	CO 5	AITB26.24
5	Describe planning? Write about project planning process.	Understand	CO 5	AITB26.25

6	Describe COCOMO II model.	Remember	CO 5	AITB26.21
7	Describe about proactive risk strategies.	Understand	CO 5	AITB26.22
8	Demonstrate various types of software risks.	Understand	CO 5	AITB26.23
9	Describe risk identification.	Remember	CO 5	AITB26.24
10	Describe how overall project risk will be assessed.	Understand	CO 5	AITB26.25
11	Describe risk projection (or) risk estimation?	Remember	CO 5	AITB26.21
12	Describe the RMMM.	Remember	CO 5	AITB26.22
13	Describe software project scheduling.	Understand	CO 5	AITB26.23
14	Describe the basic principles of software project scheduling?	Remember	CO 5	AITB26.24
15	Demonstrate the relationship between people and effort.	Remember	CO 5	AITB26.25
16	Describe how should effort be distributed across the software process workflow?	Understand	CO 5	AITB26.21
17	Describe about time-line charts with an examples.	Understand	CO 5	AITB26.22
18	Describe earned value analysis.	Understand	CO 5	AITB26.23
19	Demonstrate process metrics and software process improvement	Remember	CO 5	AITB26.24
20	Illustrate the various metrics for software quality.	Understand	CO 5	AITB26.25
	Part - B (Long Answer Questions)			
1	Describe Reactive versus Proactive Risk Strategies	Understand	CO 5	AITB26.21
2	Describe Risk mitigation, monitoring, and management.	Remember	CO 5	AITB26.22
3	Describe scheduling? Explain the importance of scheduling in the project management.	Remember	CO 5	AITB26.23
4	Illustrate the importance of project scheduling.	Understand	CO 5	AITB26.24
5	Describe how to define a task set for the software project.	Remember	CO 5	AITB26.25
6	Describe how the risk identification is done in risk management.	Remember	CO 5	AITB26.21
7	Compare the pros and cons of COCOMO and COCOMO II Models?	Understand	CO 5	AITB26.22
8	Describe software measurement and discuss various metrics.	Remember	CO 5	AITB26.23
9	Describe the process of integrating metrics within the software process.	Remember	CO 5	AITB26.24
10	Demonstrate various metrics for small organizations.	Understand	CO 5	AITB26.25
11	Demonstrate which technique is applicable when other projects in the same analogy application domain have been completed?	Remember	CO 5	AITB26.25
12	Describe the advantages and limitations of COCOMO model.	Remember	CO 5	AITB26.21
13	Describe size oriented metrics with suitable examples.	Understand	CO 5	AITB26.22
14	Describe function oriented metrics with suitable examples.	Remember	CO 5	AITB26.23
15	List the practical reason for the constant denominator in Halstead Difficulty measurement?	Remember	CO 5	AITB26.24
16	Describe function oriented design and object oriented design?	Remember	CO 5	AITB26.25
17	Demonstrate what type of abstraction is used in software design?	Remember	CO 5	AITB26.25
18	Demonstrate which design model elements are used to depict a model of information represented from the user's view?	Remember	CO 5	AITB26.25
19	Describe Cyclomatic complexity? Explain with an example?	Remember	CO 5	AITB26.25
20	Describe the need for software measurement? Explain the classification of measurement?	Remember	CO 5	AITB26.25

	Part – C (Problem Solving and Critical Thinking)			
1	Describe the differences between "known risks" and "predictable risks."	Understand	CO 5	AITB26.21
2	Describe five software application areas in which software safety and hazard analysis would be a major concern.	Understand	CO 5	AITB26.22
3	Compare predictable and unpredictable risks?	Understand	CO 5	AITB26.21
4	Demonstrate various major decision situations where COCOMO II model can be used?	Understand	CO 5	AITB26.21
5	Demonstrate three sub-models of COCOMO II estimation model?	Understand	CO 5	AITB26.21
6	Describe the different stages of COCOMO II estimation model?	Understand	CO 5	AITB26.21
7	Describe Early Design Estimation Model in detail?	Understand	CO 5	AITB26.21
8	Describe Post Architecture Estimation Model in detail?	Understand	CO 5	AITB26.21
9	Describe Application Composition Estimation Model in detail?	Understand	CO 5	AITB26.21
10	Demonstrate the phrase "Estimation depends on factors such as Function points and LOC"?	Understand	CO 5	AITB26.21

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