Register Number:……..

B.E DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Fourth Semester

INFORMATION SCIENCE AND ENGINEERING

U18ISI4203: Software Engineering

COURSE OUTCOMES

CO1: Design a application using UML modeling
CO2: Test the given application with various test case using a testing tool
CO3: Create a application with all the stages of software engineering lifecycle
CO4: Apply project management and change management

Time: Three Hours **Maximum Marks: 100**

1.	Outline about sprint process in Scrum	CO3	[K_2]
2.	Differentiate between agile and traditional software lifecycle models.	CO1	[K_2]
3.	How does a Use Case Diagram help in requirement analysis?	CO1	[K_2]
4.	Differentiate between functional and non-functional requirements.	CO3	[K_2]
5.	Give an example for commonly used design patterns.	CO3	[K_1]
6.	List two advantages of automating tests.	CO2	[K_2]
7.	Define the role usability testing.	CO2	[K_2]
8.	Summarize purpose of a rationale in decision-making.	CO4	[K_2]
9.	Recall about configuration baseline.	CO4	[K_2]
10.	Identify the role of configuration management in change management?	CO4	[K_3]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Illustrate the Spiral model and its phases. Write the importance of risk analysis in this model.	8	CO3	[K_2]
	b)	Describe the Scrum framework and its components. Explain the roles and artifacts involved in Scrum.	8	CO3	[K_4]
12.		Consider a scenario for the software development team is tasked with building a mobile app for a food delivery service. During the initial requirement analysis	16	CO3	[K_3]

phase, they identify that different stakeholder (customers, restaurant partners, and delivery personnel) have distinct requirements and priorities.

(i) Describe the steps the team should take to gather and analyze requirements from these diverse stakeholders.

(ii) Identify the techniques would be most effective in ensuring that the requirements are accurately captured and aligned with business objectives?

13.		Consider an e-commerce website that allows users to browse products, add items to their shopping cart, place orders, and make payments. It also has an admin panel for managing product listings and processing orders. **(i)** Design a UML Activity Diagram that depicts the order placement workflow, starting from selecting products to confirming payment. Include decision points such as user login, payment options, and stock availability. **(ii)** Create a UML Class Diagram along with their relationships and relevant attributes and methods. **(iii)** Design UML Usecase diagram that represents different user roles (e.g., customer, system, admin). **(iv)** Differentiate between Collaboration Diagram vs. Component Diagram	16	CO1	[K_3]
14.	a)	Explain the process of implementing configuration control, the role of change requests and change approval boards in managing project changes	8	CO4	[K_2]
	b)	Illustrate the Rationale activities from identifying issues to make decisions with examples.	8	CO4	[K_2]
15.	a)	Describe regression testing and its importance for ensuring the stability and reliability of the software.	8	CO2	[K_2]
	b)	Demonstrate the various activities involved in managing implementation, including mapping models to code and ensuring alignment with design specifications.	8	CO2	[K_2]

16.	a)	Explain the activities involved in Configuration Management and identify how each activity contributes to maintaining consistency and integrity in a software project.	8	CO4	[K_3]
	b)	Explain the following terms with an example • Faults • Erroneous States • Failures • Testcases • Test Stubs and Drivers	8	CO2	[K_2]

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