Register Number:……..

KUMARAGURU college of technology
character is life

B.E/B.TECH DEGREE EXAMINATIONS: NOV /DEC 2024

(Regulation 2018)

Fourth Semester

COMPUTER SCIENCE AND ENGINEERING

U18CSI4204**:** Software Engineering

COURSE OUTCOMES

CO1: Design an application using UML modeling.

CO2: Test the given application with various test case using a testing tool.

CO3: Create an application with all the stages of software engineering lifecycle.

CO4: Apply project management and change management.

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

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Define software and mention its characteristics.	CO3	[K_1]
2.	Classify the fundamental activities of software process.	CO3	[K_2]
3.	Define project communication.	CO4	[K_1]
4.	Infer the role of a project manager in a project organization.	CO4	[K_2]
5.	Name at least three factors that contribute to the usability of a software application.	CO1	[K_1]
6.	Compare functional and non-functional requirements.	CO1	[K_2]
7.	Recall why mapping models to code is considered an essential step in the software development process.	CO2	[K_1]
8.	Interpret how test stubs and drivers are used in integration testing.	CO2	[K_2]
9.	Give an overview of rationale management in the software development lifecycle.	CO4	[K_1]
10.	Define configuration management and relate its importance in software development projects.	CO4	[K_2]

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

11.	a)	Identify the common causes of software engineering failures and how they can be mitigated.	8	CO3	[K_3]
	b)	Explain the concept of user stories in Agile Development and how they are used in Scrum. Interpret the characteristics of well-written user stories and how they contribute to effective Sprint planning and delivery.	8	CO3	[K_5]

12.	a)	Categorize the stages of team development in a project organization. Analyze how project managers can facilitate effective team dynamics and collaboration.	10	CO4	[K_4]
	b)	Identify the challenges associated with project communication in distributed or remote teams.	6	CO4	[K_3]
13.	a)	Assume you are going to develop a UML Activity Diagram for activities involved in ordering food in a restaurant from the point when the customer enters a restaurant to the point when he leaves the restaurant. Draw a UML Activity Diagram to generate restaurant bill.	10	CO1	[K_4]
	b)	Identify the various activities performed in Requirements Elicitation phase with an example.	6	CO1	[K_3]
14.	a)	Analyze the importance of testing in the software development lifecycle. Provide an overview of different types of testing, including unit testing, integration testing, and system testing. Explain how each type contributes to ensure software quality.	8	CO2	[K_4]
	b)	Identify the challenges associated with automating testing in software development projects. Explain the benefits of test automation, common tools and frameworks used, and best practices for implementing automated testing strategies.	8	CO2	[K_3]
15.	a)	Identify the difference between explicit and implicit rationale. Provide examples of each and explain how they influence decision-making processes in software development projects.	8	CO4	[K_3]
	b)	Illustrate the key activities involved in rationale management, from identifying issues to make decisions and justify each activity and its role in the decision making process.	8	CO4	[K_2]
16.	a)	A Library lends books and magazines to member, who is registered in the system. It also maintains the purchase of new books and magazines for the Library. A member can reserve a book or magazine that is not currently available in the library, so that when it is returned or purchased by the library, that person is notified. The library can easily create, replace and delete information about the books, members, and reservation in the system. The books transactions are stored in the database. The fine list while the member returns the book after the due date must be generated. Analyze the users and actors of this system, and the interactions between them must be depicted with the help of UML Use Case Diagram.	8	CO1	[K_4]

b)	Describe a scenario where a hybrid approach combining elements of the waterfall, iterative and spiral models would be appropriate for a software development project. Justify how you would integrate different lifecycle model components to achieve project goals effectively.	8	CO3	[K_5]

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