Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Sixth Semester

Information Technology

CCS356 - Object Oriented Software Engineering

(Common to Computer Science and Engineering)

Regulations - 2021

Duration : 3 Hrs *Maximum: 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	List any two characteristics of a good software process model.	RE	1	2
2.	What is extreme programming (XP)?	RE	1	2
3.	What is the primary objective of requirements analysis?	RE	2	2
4.	Give the purpose of a use case diagram.	UN	2	2
5.	Infer the purpose of using design patterns in software development.	UN	3	2
6.	List the architectural styles available for software design.	RE	3	2
7.	Compare white box testing and black box testing.	UN	4	2
8.	Why is regression testing important after code changes?	UN	4	2
9.	Differentiate between critical path and non-critical path in project scheduling.	UN	5	2
10.	List the significance of monitoring and logging in operations management.	RE	5	2

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)*

Q.No			*Questions*	*BLT*	*CO*	*Marks*
11.	a	i	Describe the importance of a well-defined software process in software development.	AP	1	7
		ii	Compare and contrast the various traditional software process models.	UN	1	6
			Or			
12	b	i	Demonstrate Extreme Programming (XP) as an agile process model.	UN	1	6
		ii	Identify the challenges and limitations of using an agile process in large-scale software development.	AP	1	7
12.	a	i	Describe the components of a data flow diagram. How does a DFD help in understanding the flow of information within a system?	UN	2	9
		ii	Illustrate how finite state machines model is used to represent system behavior.	UN	2	4
			Or			
	b		Compare and contrast data flow diagrams with UML diagrams in representing system requirements. Discuss the strengths and limitations of each approach and provide examples where each is most effective.	UN	2	13

13.	a	Given an existing e-commerce site with poor navigation, describe how you would redesign the user interface to improve user experience and accessibility.	AP	3	13
		Or			
	b	Design an e-commerce platform with a strategy pattern for flexible payment options (e.g., credit card, PayPal) and a proxy pattern to control and secure access to sensitive customer data.	AP	3	13
14.	a	Design test cases for a function that checks if a number is even. Include unit tests to validate the function's logic and black/white box tests to ensure it handles edge cases like negative numbers and zero. What would be your expected outcomes for each test?	AP	4	13
		Or			
	b	Discuss how applying specific testing strategies like integration testing and model checking might have mitigated the risk.	AP	4	13
15.	a	Explain the purpose of software configuration management and describe its main components. How do these components interact to ensure software integrity?	UN	5	13
		Or			
	b	Discuss the advantages and challenges of using cloud computing as a platform for software development and deployment. How does cloud technology facilitate scalability?	UN	5	13

*PART – C (Marks 1*15 = 15)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
16.	a	Develop a use case model for an online food ordering system, identifying the main actors and their interactions with the system. Draw a class diagram to show important entities like Customer and Order and how they relate. Finally, make an activity diagram for the order placement process.	AP	2	15
		Or			
	b	Given a scenario where a client needs a new e-commerce application, identify the functional and non-functional requirements and organize them into a Software Requirement Specification (SRS) document.	AP	2	15