

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
III B.Tech II Semester Supplementary Examinations, November-2025
OBJECT ORIENTED ANALYSIS AND DESIGN
 (Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**

All Questions Carry Equal Marks

		<u>UNIT-I</u>	
1.	a)	Explain the key principles of object-oriented analysis. How do they support better software design?	[7M]
	b)	Describe the fundamental concepts involved in modeling complex systems using UML.	[7M]
		(OR)	
2.	a)	Discuss the major challenges faced in software design for large and complex systems.	[7M]
	b)	Explain the layered architecture of software systems with a neat diagram.	[7M]
		<u>UNIT-II</u>	
3.	a)	Define the different building blocks of UML and explain their significance.	[7M]
	b)	Describe the major characteristics and purposes of structural diagrams in UML.	[7M]
		(OR)	
4.	a)	Explain the role of UML in object-oriented system development with suitable examples.	[7M]
	b)	Discuss the importance of visual modeling and the benefits of using multiple UML diagrams.	[7M]
		<u>UNIT-III</u>	
5.	a)	Explain different types of class relationships in UML with suitable examples.	[7M]
	b)	Discuss the key steps involved in identifying classes during object-oriented analysis.	[7M]
		(OR)	
6.	a)	Explain how objects and classes can be identified from problem statements.	[7M]
	b)	Discuss the concept of generalization and aggregation with relevant UML representations.	[7M]
		<u>UNIT-IV</u>	
7.	a)	Develop a use case model for a Library Management System.	[7M]
	b)	Explain the purpose and usage of sequence and collaboration diagrams in modeling interactions.	[7M]
		(OR)	
8.	a)	Discuss how to model dynamic behavior using activity and state machine diagrams.	[7M]
	b)	Illustrate how event-driven modeling helps in describing system behavior.	[7M]
		<u>UNIT-V</u>	
9.	a)	Explain the concept of deployment diagrams and describe their key elements.	[7M]
	b)	Discuss the need for modeling reusable software components and frameworks.	[7M]
		(OR)	
10.	a)	Explain the role of component diagrams in system implementation.	[7M]
	b)	Draw and explain a state chart diagram for an online shopping system.	[7M]
