23CS31E1 - OBJECT ORIENTED ANALYSIS AND DESIGN

Course Category:	Professional Elective - I	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisite:	• Knowledge in Object Oriented Analysis And Design	Sessional Evaluation: Univ. Exam Evaluation: Total Marks:	30 70 100
Course Objectives:	**Students undergoing this course are expected:** • Describe the activities in the different phases of the object-oriented development lifecycle. • Understand the concepts of object-oriented model with the E-R and EER models. • Model a real-world application by using UML diagram. • Design architectural modelling. • Describing an application of UML		

Course Outcomes:	**Upon successful completion of the course, the students will be able to:**		
	CO1	The importance of modelling in UML.	
	CO2	Compare and contrast the object-oriented model with the E-R and EER models.	
	CO3	Design use case diagram. Design an application using deployment diagram.	
	CO4	Apply UML diagrams to build library application	
	CO5	Know the concepts of object-oriented model with the E-R and EER models	

Course Content:

UNIT-I
Introduction to UML: Importance of modelling, principles of modelling, object-oriented modelling, conceptual model of the UML, Architecture, Software Development Life Cycle..

UNIT-II
Basic Structural Modelling: Classes, Relationships, common Mechanisms, and diagrams
Advanced Structural Modelling: Advanced classes, advanced relationships, Interfaces, Types and Roles, Packages. Class & Object Diagrams: Terms, concepts, modelling techniques for Class & Object Diagrams

UNIT-III
Basic Behavioural Modelling-I: Interactions, Interaction diagrams
Basic Behavioural Modelling-II– Use cases, Use case Diagrams, Activity Diagrams

UNIT-IV
Advanced Behavioral Modelling: Events and signals, state machines, processes and Threads, time and space, state chart diagrams. Architectural Modelling: Component, Deployment, Component diagrams and Deployment diagrams.

	UNIT-V **Patterns and Frameworks**: Artifact Diagrams. Case Study: The Unified Library application.
Text Books & References Books:	**TEXTBOOKS:** 1. Grady Booch, James Rumbaugh, Ivar Jacobson: The Unified Modelling Language User Guide, Pearson Education 2nd Edition. 2. Object-Oriented Analysis and Design with the Unified Process By John W. Satzinger, Robert B Jackson and Stephen D Burd, Cengage Learning **REFERENCE BOOKS:** 1. Meilir Page-Jones: Fundamentals of Object-Oriented Design in UML, Pearson Education. 2. Pascal Roques: Modelling Software Systems Using UML2, WILEY-Dreamtech India Pvt. Ltd. 3. Atul Kahate: Object Oriented Analysis & Design, The McGraw-Hill Companies. 4. Mark Priestley: Practical Object-Oriented Design with UML, TMH. 5. Appling UML and Patterns: An introduction to Object – Oriented Analysis and Design and Unified Process, Craig Larman, Pearson Education.