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|  |  | **17CS3202 - OBJECT ORIENTED ANALYSIS AND DESIGN** |

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| **Course Category:** | Program Core | **Credits:** | 3 |
| **Course Type:** | Theory | **Lecture – Tutorial – Practical:** | 3-0-0 |
| **Prerequisite:** | Require Software Engineering basics and fundamentals of Object Oriented Features. | **Sessional Evaluation:**  **Univ. Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Objectives** | * Specify, analyze and design the use case driven requirements for a particular system. * Model the event driven state of object and transform them into implementation specific layouts. * Identify, analyze the subsystems, various components and collaborate them interchangeably. | | |

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| **Course Outcomes** | Upon the successful completion of the course, the students will be able to: | |
| CO1 | Know the importance of modeling and principles, architecture and software development life cycle. |
| CO2 | Learn about the basics and advanced structural modeling techniques. |
| CO3 | Draw the class and object diagrams for various applications. |
| CO4 | Gain knowledge about the basics of behavioral modeling and its applicability. |
| CO5 | Learn the state, time and space issues and supporting applicability |
| CO6 | Study various component and deployment diagram properties for different applications |
| **Course Content** | **UNIT – I**  **Introduction to UML**: The importance of modeling, Principles of modeling, Object oriented modeling, A conceptual model of the UML, Architecture, Software Development Life Cycle.  **UNIT – II**  **Basic Structural Modeling**: Classes, Relationships, Common Mechanisms and Diagrams.  **Advanced Structural Modeling**: Advanced Classes, Advanced Relationships, Interfaces, Types and Roles, Packages.  **UNIT – III**  **Class & Object Diagrams**: Terms and Concepts, Common Modeling techniques for Class & Object Diagrams.  **UNIT – IV**  **Basic Behavioral Modeling**: Interactions, Interaction diagrams, Use cases, Use case diagrams, Activity diagrams.    **UNIT – V**  **Advanced Behavioral Modeling**: Events and Signals, State machines, Process and Threads, Time and Space, State chart diagrams.  **UNIT – VI**  **Architectural Modeling**: Components, Deployment, Component diagrams and Deployment diagrams. | |
| **Text Books and References** | **TEXT BOOKS:**   1. Grady Booch, James Rumbaugh, IvarJacobson: The Unified Modeling Language User Guide, Pearson Education.   **REFERENCE BOOKS:**   1. Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education. 2. AtulKahate: Object Oriented Analysis & Design, The McGraw-Hill Companies. | |
| **E-Resources** | 1. <https://nptel.ac.in/courses> 2. <https://freevideolectures.com/university/iitm> | |