# SCHEME OF COURSE WORK

**Course Details:**

| Course Title | : OBJECT ORIENTED ANALYSIS & DESIGN | | |
|---|---|---|---|
| Course Code | : 13CT1118 | L  T  P  C | : 4 0 0 3 |
| Program: | : B.Tech. | | |
| Specialization: | : Computer Science & Engineering, Information Technology | | |
| Semester | : V | | |
| Prerequisites | : | | |
| Courses to which it is a prerequisite | : | | |

**Course Outcomes (COs):**

| 1 | Explain basic Building Blocks in UML. |
|---|---|
| 2 | Create class and object diagrams in UML |
| 3 | Develop interaction, use case, activity diagrams |
| 4 | Design component and deployment diagrams. |
| 5 | Apply Object Oriented Design concepts. |

**Program Outcomes (POs):**
**A graduate of Information Technology will be able to**

| 1 | Ability to apply the knowledge of mathematics, science, engineering fundamentals and principles of Information Technology to  solve problems in different domains. |
|---|---|
| 2 | Ability to analyze a problem, identify and formulate the computing requirements appropriate to its solution. |
| 3 | Ability to design & develop software applications that meet the desired specifications within the realistic constraints to serve the needs of the society. |
| 4 | Ability to design and conduct experiments, as well as to analyze and interpret data |
| 5 | Ability to use appropriate techniques & tools to solve engineering problems. |
| 6 | Ability to apply the knowledge to analyze and understand societal, health, safety, legal, and   cultural issues relevant to the Information Technology practices. |
| 7 | Ability to analyze the local and global impact of computing on individual as well as on society. |
| 8 | Ability to demonstrate professional ethical practices and social responsibilities in global and societal contexts. |
| 9 | Ability to function effectively as an individual, and as a member or leader in diverse and   multidisciplinary teams. |
| 10 | Ability to communicate effectively with the engineering community and with society at large |
| 11 | Ability to understand engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects. |
| 12 | Ability to recognize the need for updating the knowledge in the chosen field and imbibing   learning to learn skills. |

**Course Outcome versus Program Outcomes:**

| Course outcomes | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | | M | M | | M | | | | | | | |
| CO2 | | M | M | | M | | | | M | M | M | |
| CO3 | | S | S | | S | | | | S | S | S | |
| CO4 | | S | S | | S | | | | S | S | S | |
| CO5 | | S | S | | S | | | | S | S | S | |

*S - Strongly correlated, M - Moderately correlated, Blank - No correlation*

| Assessment Methods: | Assignment / Quiz / Mid-Test / End Exam |
|---|---|

## Teaching-Learning and Evaluation

| Week | TOPIC / CONTENTS | Course Outcomes | Sample questions | TEACHING-LEARNING STRATEGY | Assessment Method & Schedule |
|---|---|---|---|---|---|
| 1 | **An overview of object oriented systems development.** | CO-1 | 1.What is an object? | Lecture / Discussion Demonstration | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 2 | **The Importance of Modeling, Principles of Modeling, Object Oriented Modeling** | CO-1 | 1. **What are the principles of modelling?** | Lecture / Discussion | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 3 | **An overview of the UML, A Conceptual Model of the UML, Architecture, Software Development Life Cycle.** | CO- 1 | 1 **What is the importance of the modeling?** | Lecture/ Discussion | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 4 | **Classes, Relationships, Common Mechanisms, and diagrams,** | CO-2 | 1. **What are common mechanisms?** | Lecture/ Discussion Problem solving | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 5 | **Class diagrams** | CO-2 | 1. **Define a class diagram** | Lecture/ Discussion Problem solving | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 6 | **Advanced classes, advanced relationships, Interfaces,** | CO-2 | 1. **Define advanced relationships** | Lecture/ Discussion | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 7 | **Types and Roles, Packages, Object Diagrams** | CO-2 | 1. **Define Types and Roles** | Lecture/ Discussion | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |

| | | | | | |
|---|---|---|---|---|---|
| 8 | **Interactions, Interaction diagrams, Use cases, Use case diagrams, Activity Diagrams** | CO- 3 | 1. **Define Interaction and use case diagram** | Lecture/ Discussion | Quiz (Week-7) Assignment (Week-6 to Week-8) Mid-Test 1 |
| 9 | Mid-Test 1 | | | | |
| 10 | **Events and signals, state machines** | CO-3 | 1. **Define state chart diagrams** | Lecture/ Discussion Problem solving | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 11 | **processes and Threads, time and space, state chart diagrams** | CO-3 | 1. **Define processes and threads** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 12 | **Component, Deployment** | CO-4 | 1. **What is a component?** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 13 | **Component diagrams and Deployment diagrams** | CO-4 | 1. **Draw the symbols of component and deployment** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 14 | **Patterns and Frameworks, Collaborations** | CO-4 | 1. **Define Patterns** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 15 | **Systems and Models** | CO-4 | 1. **What are systems and models?** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 16 | **Bank ATM Application** | CO-5 | 1. **Draw use case diagram for ATM application** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 17 | **Railway Reservation System** | CO-5 | 1. **Draw class diagram for Railway Reservation System** | Lecture/ Discussion | Quiz (Week-17) Assignment (Week-15 to Week-17) Mid-Test 2 |
| 18 | Mid-Test 2 | | | | |
| 19/20 | END EXAM | | | | |