

**IV B.Tech – I Semester  
(17CS712) UML Lab**

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
60	40	100	-	-	3	2

**Pre-Requisites: knowledge on software engineering**

**Course Objectives:**

- Construct UML diagrams for static view and dynamic view of the system.
- Generate creational patterns by applicable patterns for given context.
- Create refined model for given Scenario using structural patterns.
- Construct behavioural patterns for given applications.

**Week 1:** Familiarization with Rational Rose or Umbrello For each case study:

**Week 2, 3 & 4: For each case study:**

- a) Identify and analyze events
- b) Identify Use cases
- c) Develop event table
- d) Identify & analyze domain classes
- e) Represent use cases and a domain class diagram using Rational Rose
- f) Develop CRUD matrix to represent relationships between use cases and problem domain classes

**Week 5 & 6: For each case study:**

- a) Develop Use case diagrams
- b) Develop elaborate Use case descriptions & scenarios
- c) Develop prototypes (without functionality)
- d) Develop system sequence diagrams

**Week 7, 8, 9 & 10: For each case study:**

- a) Develop high-level sequence diagrams for each use case
- b) Identify MVC classes / objects for each use case
- c) Develop Detailed Sequence Diagrams / Communication diagrams for each use case showing interactions among all the three-layer objects
- d) Develop detailed design class model (use GRASP patterns for responsibility assignment)
- e) Develop three-layer package diagrams for each case study

**Week 11 & 12: For each case study:**

- a) Develop Use case Packages
- b) Develop component diagrams
- c) Identify relationships between use cases and represent them
- d) Refine domain class model by showing all the associations among classes •

**Week 13 onwards: For each case study:**

- a) Develop sample diagrams for other UML diagrams - state chart diagrams, activity diagrams and deployment diagrams

**Course Outcomes:**

CO-1	Gains Knowledge on Conceptual model of UML	L3
CO-2	Gains knowledge on Basic Behavioural Modelling	L3
CO-3	Gains Knowledge on Advanced Behavioural Modelling.	L3
CO-4	Gains Knowledge on Architectural Modelling	L3

**Correlation of COs with POs & PSOs:**

	<b>PO-1</b>	<b>PO-2</b>	<b>PO-3</b>	<b>PO-4</b>	<b>PO-5</b>	<b>PO-6</b>	<b>PO-7</b>	<b>PO-8</b>	<b>PO-9</b>	<b>PO-10</b>	<b>PO-11</b>	<b>PO-12</b>	<b>PSO-1</b>	<b>PSO-2</b>	<b>PSO-3</b>
<b>CO-1</b>	3	3	3	-	2	-	-	-	-	-	1	-	-	3	-
<b>CO-2</b>	2	2	3	-	2	-	-	-	-	-	2	-	-	2	-
<b>CO-3</b>	2	2	3	-	2	-	-	-	-	-	1	-	-	1	-
<b>CO-4</b>	2	2	3	-	2	-	-	-	-	-	1	-	-	1	-