Syllabus for M.C.A (Commerce) SEM III

303 : Object Oriented Software Engineering

Chapter No	Name Of the Topic	Total No. of Lectures	Ref. Book
1	**Object Oriented Concepts and Modeling** **1.1** What is Object Orientation? (Introduction to class, Object, inheritance, polymorphism) **1.2** Model **1.2.1** Importance of Modeling **1.2.2** Object Oriented Modeling **1.3** Object oriented system development **1.3.1** Function/data methods **1.3.2** Object oriented analysis **1.3.3** Object oriented construction **1.3.4** Object oriented testing **1.4** Identifying the elements of an object model **1.4.1** Identifying classes and objects **1.4.2** Specifying the attributes **1.4.3** Defining operations **1.4.4** Finalizing the object definition	7	**R1, R2, R3**
2	**Introduction to UML** **2.1** Overview of UML **2.2** Conceptual Model of UML **2.3** Architecture **2.4** S/W Development Life Cycle	4	**R1**
3	**Basic and Advanced Structural Modeling** **3.1** Classes Relationship, Common mechanism, Diagrams, Class diagram **3.2** Advanced classes, Advanced Relationship, Interface, Types and Roles, Packages, Object Diagram	8	**R1**
4	**Basic Behavioral Modeling** **4.1** Interactions **4.2** Use cases, Use Case Diagram **4.3** Interaction Diagram	10	**R1**

	4.4 Activity Diagram **4.5** State chart Diagram		
5	**Architectural Modeling** **5.1** Component , Components Diagram **5.2** Deployment Diagram	3	**R1**

6	**Object Oriented Design**
	6.1 Generic components of OO Design model
	6.2 System Design process
	    6.2.1 Partitioning the analysis model
	    6.2.2 Concurrency and subsystem allocation
	    6.2.3 Task Mgmt component
	    6.2.4 Data Mgmt component
	    6.2.5 Resource Mgmt component
	    6.2.6 Inter sub-system communication
	6.3 Object Design process
		6	**R3**

7	**Object Oriented Analysis**
	7.1 Iterative Development
	7.2 Unified process & UP Phases
	   Inception
	   Elaboration
	   Construction
	   Transition
	7.3 Understanding requirements
	7.4 UP Disciplines
	7.5 Agile UP
		5	**R4**

8	**Object Oriented Testing** **7.1** Overview of Testing and object oriented Testing **7.2** Types of Testing **7.3** Object oriented Testing strategies **7.4** Test case design for OO software **7.5** Inter class test case design	5	**R3**

References:
R1: The Unified Modeling Language User Guide by Grady Booch, James
    Raumbaugh, Ivar Jacobson.
R2: Object Oriented Software Engineering by Ivar Jacobson
R3: Software Engineering by Pressman
R4: Applying UML and Patterns by Craig Larman