SRMIST, RAMAPURAM CAMPUS

DEPARTMENT OF COMPUTER APPLICATIONS

NAME OF THE SUBJECT: D. Kanchana
SUBJECT CODE : PCA20C07J **BRANCH: 2020 - 2021**
SEM/YEAR : III/II **REGULATION: 2020**

LESSON PLAN

Session	Date	Period	Description of topic	Contact hours	CLRs	CLOs	Learning Resources
Unit-I							
S-1	07.07.2021	1	Introduction to OOAD with OO Basics	1	1	1	1
S-2	08.07.2021	1	Unified Process	1	1	1	1
S-3	09.07.2021	1	UML diagrams-Basics	1	1	1	1
		1	UML diagrams	1	1	1	1
S-4to S-5	12.07.2021	1	**Lab 1:Case study – the Next Gen POS system**	2	1	1	1
S-6	13.07.2021	1	Use Case	1	1	1	1
S-7	14.07.2021	1	Inception -Use case Modeling	1	1	1	1
S-8	15.07.2021	1	Relating Use cases	1	1	1	1
S-9 to S-10	16.07.2021	1	**Lab 2 :Identify a software system that needs to be developed**	2	1	1	1

S-11	19.07.2021	1	Include, extend and generalization.	1	1	1	1
S-12	20.07.2021	1	When to use Use-cases	1	1	1	1
S-13	22.07.2021	1	UML modeling tool	1	1	1	1
S-14 to S-15	23.07.2021	1	**Lab 3: Document the Software Requirements Specification (SRS) for the identified system**	2	1	1	1
Unit II							
S-1	26.07.2021	1	Class Diagram	1	1	1	1
S-2	27.07.2021	1	Elaboration – Domain Model	1	1	1	1
S-3	28.09.2021	1	Finding conceptual classes	1	1	1	1
		1	Finding description classes	1	1	1	1
S-4 to S-5	29.07.2021	1	**Lab 4: Identify use cases**	2	1	1	1
S-6	30.07.2021	1	Associations – Attributes	1	1	1	1
S-7	02.08.2021	1	Domain model refinement	1	1	1	1
S-8	03.08.2021	1	Finding conceptual class Hierarchies	1	1	1	1
S-9 – S-10	04.08.2021	1	**Lab 5: Develop the Use Case model**	2	1	1	1
S-11	05.08.2021	1	Aggregation and Composition	1	1	1	1
S-12	06.08.2021	1	- Relationship between sequence diagrams and use cases	1	1	1	1
S-13	09.08.2021	1	When to use Class Diagrams	1			

S-14 to S-15	10.08.2021	1	**Lab 6: Identify the conceptual classes and develop a Domain Model and also derive a Class Diagram from that.**	2	1	1	1
Unit III							
S-1	11.08.2021	1	Dynamic Diagrams	1	1	1	1
S-2	12.08.2021	1	UML interaction diagrams	1	1	1	1
S-3	13.08.2021	1	System sequence diagram- Basics	1	1	1	1
		1	System sequence diagram	1	1	1	1
S-4to S-5	16.08.2021	1	**Lab7: Using the identified scenarios, find the interaction between objects and represent them using UML**	2	1	1	1
S-6	17.08.2021	1	Collaboration diagram – When to use Communication Diagrams	1	1	1	1
S-7	18.08.2021	1	State machine diagram and Modeling –When to use State Diagrams	1	1	1	1
S-8	20.08.2021	1	Activity diagram – When to use activity diagrams	1	1	1	1
S-9 to S-10	23.08.2021	1	**Lab 8: Sequence and Collaboration Diagrams**	2	1	1	1
S-11	24.08.2021	1	Implementation Diagrams - UML package diagram	1	1	1	1
S-12	25.08.2021	1	When to use package diagrams - Component and Deployment Diagrams	1			
S-13	26.08.2021	1	When to use Component and Deployment diagrams	1	1	1	1
S-14 to S-15	27.08.2021		**Lab 9: Draw relevant State Chart and Activity Diagrams for the same system**	2	1	1	1
Unit IV							

S-1	30.08.2021	1	GRASP: Designing objects with responsibilities	1	1	1	1
S-2	31.08.2021	1	Creator – Information expert	1	1	1	1
S-3	01.09.2021	1	Low Coupling	1	1	1	1
		1	High Cohesion	1	1	1	1
S-4to S-5	02.09.2021	1	**Lab 10: Implement the system as per the detailed design.**	2	1	1	1
S-6	03.09.2021	1	Controller ,Design Patterns	1	1	1	1
S-7	06.09.2021	1	creational – factory method	1	1	1	1
S-8	07.09.2021	1	Adapter – behavioral	1	1	1	1
S-9 to S-10	08.09.2021	1	**Lab 11: package diagrams - Component and Deployment Diagrams.**	2	1	1	1
S-11	09.09.2021	1	Strategy – observer	1	1	1	1
S-12	13.09.2021	1	Applying GoF design patterns	1	1	1	1
S-13	14.09.2021	1	Mapping design to code	1	1	1	1
S-14 to S-15	15.09.2021	1	**Lab 12: Test the software system for all the scenarios identified as per the use case diagram.**	2	1	1	1
Unit V							
S-1	16.09.2021	1	Object Oriented Methodologies	1	1	1	1
S-2	17.09.2021	1	Software Quality Assurance	1	1	1	1
S-3	20.09.2021	1	Impact of object orientation on Testing	1	1	1	1

		1	Impact of object orientation on Testing - Feedback	1	1	1	1
S-4to S-5	21.09.2021	1	**Lab 13:Improve the reusability and maintainability of the software system**	2	1	1	1
S-6	22.09.2021	1	Develop Test Cases and Test Plans	1	1	1	1
S-7	23.09.2021	1	APPLICATIONS-Satellite Based Navigation	1	1	1	1
S-8	24.09.2021	1	Traffic Management	1	1	1	1
S-9 to S-10	27.09.2021	1	**Lab 14 By applying appropriate design patterns**	2	1	1	1
S-11	30.09.2021	1	Crypt Analysis	1			
S-12	01.10.2021	1	Weather Monitoring Station,	1	1	1	1
S-13	04.10.2021	1	Vacation Tracking System.	1	1	1	1
S-14 to S-15	05.10.2021	1	**Lab 15: Implement the modified system and test it for various scenarios.** **SUGGESTED DOMAINS FOR MINI-PROJECT:** 1. **Passport automation system.** 2.**Book bank** 3.**Exam registration** 4. **Stock maintenance system** **Online course reservation system**	2	1	1	1

Course Learning Outcome (CLO):	**At the end of this course, learners will be able to:**	**Course Learning Rationale (CLR):**	
CLO-1 :	Express software design with UML diagrams.	CLR-1 :	To understand the fundamentals of object modeling
CLO-2 :	Design software applications using OO concepts.	CLR-2 :	To understand and differentiate Unified Process from other approaches.
CLO-3 :	Identify various scenarios based on software requirements.	CLR-3 :	To design with static UML diagrams.
CLO-4 :	Transform UML based software	CLR-4 :	To design with the UML dynamic and implementation diagrams

	design into pattern based design using design patterns		
CLO-5 :	Understand the various testing methodologies for OO software	CLR-5 :	To improve the software design with design patterns.
CLO-6 :	Apply the concepts of architectural design for deploying the code for software.	CLR-6 :	To test the software against its requirements specification

Sl. No.	Learning Resources
	Craig Larman, ―Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development, Third Edition, Pearson Education, 2005.
	Ali Bahrami - Object Oriented Systems Development - McGraw Hill International Edition – 1999.
	Erich Gamma, and Richard Helm, Ralph Johnson, John Vlissides, ―Design patterns: Elements of Reusable Object-Oriented Software‖, Addison-Wesley, 1995.
	Martin Fowler, ―UML Distilled: A Brief Guide to the Standard Object Modeling Language‖, Third edition, Addison Wesley, 2003.