

CREDIT CARD PROCESSING

A MINI PROJECT REPORT

Submitted by

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**CCS356 OBJECT ORIENTED SOFTWARE ENGINEERING
INTEGRATED LAB RECORD**

**BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING
(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)**



SARANATHAN COLLEGE OF ENGINEERING

(An Autonomous Institution)

PANJAPPUR, TIRUCHIRAPPALLI – 620012

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)



**VI SEMESTER
ACADEMIC YEAR 2024-2025
(EVEN SEMESTER)**



SARANATHAN COLLEGE OF ENGINEERING

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Vision

- Impart an inclusive engineering education that beyond being a facilitator for a career and rudimentary skills, equips the students to offer ethically & environmentally conscious solutions to societal issues.

Mission

- Create a nurturing, holistic environment of engineering education to facilitate every student realize their full potential
- Strive to make the students strong in basic concepts armed with appropriate skills to enhance one's ability to apply the knowledge to provide solutions to real time issues.
- Maintain an ambience that facilitates the students to strengthen their ethical value systems.
- Actively promote R&D and institute-industry interaction.



SARANATHAN COLLEGE OF ENGINEERING

Venkateswara Nagar, Panjappur

Tiruchirappalli – 620012

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

Vision of the Department:

To evolve as a centre of academic excellence and advanced research in Computer Science and Engineering discipline.

Mission of the Department:

1. To inculcate in students a profound understanding of fundamentals related to discipline.
2. To inculcate skills, attitudes and their applications in solving real world problems with an inclination towards societal issues and research.
3. To promote research in the emerging areas of computer science and technology

Program Educational Objectives: (PEOs)

PEO1: Develop proficiency as a computer science engineer with an ability to solve a wide range of computational problems and have sustainable development in industry or any other work environment.

PEO2: Analyze and adapt quickly to new environments and technologies, gather new information, and work on emerging technologies to solve multidisciplinary engineering problems.

PEO3: Possess the ability to think analytically and logically to understand technical problems with computational systems for a lifelong learning which leads to pursuing research.

PEO4: Adopt ethical practices to collaborate with team members and team leaders to build.

PEO5: Strongly focus on design thinking and critical analysis to create innovative products and become entrepreneurs.

Program Specific Objectives: (PSOs)

Students should be able to

PSO1: Exhibit design and programming skills to build and automate business solutions using cutting edge technologies.

PSO2: Strong theoretical foundation leading to excellence and excitement towards research, to provide elegant solutions to complex problems.

Program Outcomes: (POs)

Program Outcomes
P01: Engineering knowledge: Ability to independently carry out research/investigation and development work to solve practical problems.
P02: Problem analysis: Ability to write and present a substantial technical Report/document.
P03: Design/development of solutions: Students should be able to demonstrate a degree of mastery over the area of Computer Science and Engineering.
P04: Conduct investigations of complex problems: Efficiently design, build and develop system application software for distributed and centralized computing environments in varying domains and platforms.
P05: Modern tool usage: Understand the working of current Industry trends, the new hardware architectures, the software components and design solutions for real world problems by Communicating and effectively working with professionals in various engineering fields and pursue research orientation for a lifelong professional development in computer and automation arenas.
P06: The engineer and society: Model a computer based automation system and design algorithms that explore the understanding of the tradeoffs involved in digital transformation.
P07: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
P08: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
P09: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
P010: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
P011: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
P012: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

CCS356 OBJECT ORIENTED SOFTWARE ENGINEERING COURSE OBJECTIVES:

To understand Software Engineering Lifecycle Models

To Perform software requirements analysis

To gain knowledge of the System Analysis and Design concepts using UML.

To understand software testing and maintenance approaches

To work on project management scheduling using DevOps

PRACTICAL EXERCISES: 30 PERIODS

Practical Exercises:

List Of Experiments:

1. Identify a software system that needs to be developed.
2. Document the Software Requirements Specification (SRS) for the identified system.
3. Identify use cases and develop the Use Case model.
4. Identify the conceptual classes and develop a Domain Model and also derive a Class Diagram from that.
5. Using the identified scenarios, find the interaction between objects and represent them using UML Sequence and Collaboration Diagrams
6. Draw relevant State Chart and Activity Diagrams for the same system.
7. Implement the system as per the detailed design
8. Test the software system for all the scenarios identified as per the usecase diagram
9. Improve the reusability and maintainability of the software system by applying appropriate design patterns.
10. 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.
5. Online course reservation system
6. Airline/Railway reservation system
7. Software personnel management system
8. Credit card processing
9. e-book management system
10. Recruitment system
11. Foreign trading system
12. Conference management system
13. BPO management system
14. Library management system
15. Student information system



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

ACADEMIC YEAR 2024-2025

Name of the Lab Course	CCS356 OOSE
Semester & Year	VI & III
Name of the Student	
Class	
Name of the Evaluator	Dr.B.Rethina Kumar
Marks scored out of 20	

RUBRIC ASSESSMENT FOR LAB COURSES

Performance Indicators	Level1 (0-1)	Level2 (2-4)	Level3 (5)
Pre lab questions, objectives (P-I)	Explanation to, the Pre lab questions and objectives of the experiment, is, where compared to the expectation of the faculty is not satisfactory.	Explanation to, the Pre lab questions and objectives of the experiment, is, where compared to the expectation of the faculty is partially satisfactory.	Explanation to, the Pre lab questions and objectives of the experiment, is, where compared to the expectation of the faculty is highly satisfactory.
Procedures (P-II)	Explanation to the procedure of the experiment, is, where compared to the expectation of the faculty is not satisfactory.	Explanation to the procedure of the experiment, is, where compared to the expectation of the faculty is partially satisfactory.	Explanation to the procedure of the experiment, is, where compared to the expectation of the faculty is highly satisfactory.
Data/ Observations (P-III)	Calculation of the observed values and validation of the results of the experiment inaccurate.	Calculation of the observed values and validation of the results of the experiment approximate	Calculation of the observed values and validation of the results of the experiment precise.
Post lab questions, Conclusions (P-IV)	Explanation to the Post lab questions and Conclusions of the experiment, is, where compared to the expectation of the faculty is not satisfactory.	Explanation to the Post lab questions and Conclusions of the experiment is, where compared to the expectation of the faculty partially satisfactory.	Explanation to the Post lab questions and Conclusions of the experiment, is, where compared to the expectation of the faculty is highly satisfactory.

REGISTER NUMBER : _____

ASSESSMENT SHEET

SNo	Date	Project Scheduling	Marks (20)
1		Identify a software system that needs to be developed.	
2		SRS-Software Requirements Specifications.	
3		Identify use case and develop the use case.	
4		Identify the conceptual classes and develop a Domain Model and also derive a Class Diagram from that.	
5		UML Sequence and Collaboration Diagrams	
6		State Chart and Activity Diagrams	
7		Implement the system as per the detailed design.	
8		Implement the modified system and test it for various scenarios. (Demo)	
Total			

Signature of the Evaluator

