VASANTDADA PATIL PRATISHTHAN'S COLLEGE OF
ENGINEERING AND VISUAL ARTS
NAAC 'A' Grade Accredited, ISO 9001:2015 Certified Institute
Department of Information Technology
NBA Accredited (Dated 01/07/2024 to 30/06/2027)

SENSOR NETWORK LAB
LOG BOOK
ITL604

WATER QUALITY DETECTION SYSTEM

GROUP MEMBERS

Sr. No	Name	ID No.
1	RAHUL JADHAV	VU4F2223004
2	AYYAN GHARADE	VU4F2223009
3	YOGIRAJ SHINDE	VU4F2223014
4	NIKHIL PAWAR	VU4F2223019

Prof. Mrs. Ashwini Mulik

Guide

Department of Information Technology

Vasantdada Patil Pratisthan's College of Engineering and Visual Arts, Sion-Mumbai 400022

University of Mumbai

(Academic Year 2024-25)

Institute Vision & Mission

Vision

- To provide an environment to educate, encourage and explore students by facilitating innovative research, entrepreneurship, opportunities and employability to achieve social and professional goals.

Mission

- To foster entrepreneurship & strengthen industry institute interaction to enhance career opportunities for the employability of students.
- To encourage collaborations with industries and academic institutes in terms of projects & internships by creating area for Research and Development.
- To build up appropriate moral and ethical skills and to promote holistic development of students through various academic, social and cultural activities.

Information Technology Department

Vision

- To impart quality education in the field of Information Technology to meet the challenging needs of the society and industry.

Mission

- To provide quality education to students by including Problem Solving, Teamwork, and Leadership Skill to achieve their goals in the field of Information Technology

- To educate students for global development including entrepreneurship, employability and the ability to apply technology to real life problems.

- To develop skilled IT professionals with moral principles and empower them in lifelong learning.

Program Educational Objectives (PEOs)

- Graduates will be successful with sound foundation in engineering fundamentals, trending technologies and entrepreneurship.
- Graduates will be able to identify and solve real world problems.
- Graduates will become ingenious and responsible citizens by demonstrating ethics with a nurtured professional attitude

Program Outcomes (POs)

- **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **Problem analysis:** Identity, formulate complex engineering problems reaching substantiated conclusions using principles of Computer Engineering.
- **Design / development of solutions:** Design / develop solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the society.
- **Conduct investigations of complex problems:** Use knowledge for the design of experiments, analysis, interpretation of data, and synthesis of the information to provide valid conclusions.
- **Modern tool usage:** Create, select and apply appropriate techniques and modern engineering tools, including predictions and modeling to complex engineering activities with an understanding of the limitations.
- **The engineer and society:** Apply the knowledge to assess social issues and the responsibilities relevant to engineering practices.
- **Environment and sustainability:** Understand the impact of the professional engineering solutions in social and environmental contexts, and demonstrate the knowledge for sustainable development.
- **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

- **Communication:** Communicate effectively such as being able to comprehend and write effective reports and design documentation, make effective presentations.
- **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management skills and apply the skills to manage projects effectively.
- **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.

Program Specific Outcomes (PSOs)

- Develop efficient IT based solutions by applying and integrating various domains like Artificial Intelligence, IoT, Computer Networks and Security to solve real time problems.
- Apply technical knowledge in the field of Information Technology to achieve successful career and to pursue higher studies for future endeavors.

Teaching Scheme

Course Code	Course Name	Theory	Practical	Tutorial	Theory	Practical & Oral	Tutorial	Tota l
ITL604	Sensor Network Lab	--	02	--	--	1	--	1

Examination Scheme

Course Code	Course Name	Examination Scheme							
		Theory Marks				Term Work	Practic al & Oral	Oral	Total
		Internal assessment			End Sem. Exam				
		Test 1	Test2	Avg. of twoTests					
ITL604	Sensor Network Lab	--	--	--	--	25	--	25	50

STUDENT INFORMATION

PROJECT TITLE: Gate Guard RFID: Automated Vehicle Access System

Sr. No.	Student 1	Student 2	Student 3	Student 4
Student ID	VU4F2223004	VU4F2223009	VU4F2223014	VU4F2223019
Name	Rahul Devsingh Jadhav	Ayyan Ashfaque Gharade	Yogiraj Balkrishna Shinde	Nikhil Dadaso Pawar
Class with Division	TE – IT / A	TE – IT / A	TE – IT / A	TE – IT / A
Contact No.	9321756978	9987079952	9137450935	9321527640
E-mail	vu4f2223004@pvppcoe.ac.in	vu4f2223009@pvppcoe.ac.in	vu4f2223014@pvppcoe.ac.in	vu4f2223019@pvppcoe.ac.in
Address	Room No A/5, Plot No 49, Manish Nagar, Andheri West , Mumbai -53	Ashrafi Residency,15 th floor,flat no.1503,Two tanks, Khandia Street, Mumbai - 400008	9A/9, Old BDD Colony, Dahiwalkar Buva Lane, Dadar(E), Mumbai400014	A-2706, Contenental Heights,R.B.Marg,Mazgoan,Mumbai-400010

INSTRUCTIONS TO STUDENTS

1. The logbook must be submitted to the Guide or Co-Guide for verification and evaluation of project activities at least once in a week.

2. Log book duly signed by guide must be submitted with project report for evaluation at the end of semester to the department.

DECLARATION

I declare that this project represents my ideas in my own words without plagiarism and wherever others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/ data/ fact/ source in my project work. I promise to maintain minimum 75% attendance, as per the University of Mumbai norms. I understand that any violation of the above will be cause for disciplinary action by the Institute.

Yours Faithfully

1	RAHUL JADHAV	_____
2	AYYAN GHARADE	_____
3	YOGIRAJ SHINDE	_____
4	NIKHIL PAWAR	_____

(Date & Signature of Students)

LETTER OF ACCEPTANCE

I undersigned, Prof Ashwini Mulik Working in Information Technology Department, willing to guide the project titled WATER QUALITY DETECTION SYSTEM for the Mini Project for Sensor Network Lab in Semester-VI for the Academic Year 2024-25.

The names of the students are:

1	RAHUL JADHAV	_____
2	AYYAN GHARADE	_____
3	YOGIRAJ SHINDE	_____
4	NIKHIL PAWAR	_____

(Project Guide) (HOD-Information Technology)

Course Objectives

1. To learn different types of sensors from Motes families.
2. To design the problem solution as per the requirement analysis done using Motes sensors.
3. To study the basic concepts of programming/sensors/ emulator like cooja etc.
4. To design and implement the mini project intended solution for project based learning.
5. To build and test the mini project successfully.
6. To improve the team building, communication and management skills of the students.

Course Outcome:

Learner will be able to...

1. Identify the requirements for the real world problems.

2. Conduct a survey of several available literatures in the preferred field of study.

3. Study and enhance software/ hardware skills.

4. Demonstrate and build the project successfully by hardware/sensor requirements, coding,emulating and testing.

5. To report and present the findings of the study conducted in the preferred domain

6. Demonstrate an ability to work in teams and manage the conduct of the research study

Guidelines for Mini Project

- The mini project work is to be conducted by a group of three students Each group will be associated with a subject Incharge/ mini project mentor.

- The group should meet with the concerned faculty during Laboratory hours and the progress of work discussed must be documented.

- The students may do survey for different application using different types of sensors for their mini project.

- University of Mumbai, B. E. (Information Technology), Rev 2016 149 Each group will identify the Hardware & sensor .

- configuration and software requirement for their mini project problem statement.

- Design your own circuit board using multiple sensors etc.

- Installation, configure and manage your sensors in such away so that they can communicate with each other.

- Work with operating system, emulator like contiki cooja and do coding to for input devices on sensors.

- Create and interface using Mobile/Web to publish or remotely access the data on Internet.

- Each group along with the concerned faculty shall identify a potential problem statement, on which the study and implementation is to be conducted.

- Each group may present their work in various project competitions and paper presentations.

- A detailed report is to be prepared as per guidelines given by the concerned faculty.

PROGRESS/ATTENDANCE REPORT

Title of the Project: Gate Guard RFID: Automated Vehicle Access System	
Group No 1	Name of Student 1: RAHUL JADHAV
	Name of Student 2 AYYAN GHARADE
	Name of Student 3: YOGIRAJ SHINDE
	Name of Student 4 NIKHIL PAWAR
Name of the Supervisor/Guide: **Mrs. Ashwini Mulik**	

Sr. No.	Date	Attendance				Progress/Suggestion

Name, Date & Sign of the Supervisor/Guide

REVIEW-I FORM

Group No:_____

Title of Sensor Lab Mini-Project:_____

Date of Review-II: _____
No. of students in project team:

Student Mini-Project Performance Analysis (Put Tick as per your Observation)

Excellent (3)	Very Good(2)	Good(1)			
Sr. No	**Observation**	**(3)**	**(2)**	**(1)**
1	Quality of problem and Clarity			
2	Literature Survey			
3	Innovativeness in solutions			
4	Feasibility of the Project			
5	Usage of technology			
6	Cost effectiveness and Societal impact			
7	Overall Presentation & Performance			
Comments:				

Project Guide & Panel Members Signature: 1)

2)

DR. PRADIP S MANE

Name, Date & Signature
Project Coordinator

(Name, Date &Signature)
HOD-Information Technology

REVIEW-II FORM

Group No:_____

Title of Sensor Lab Mini-Project:_____

Date of Review-II: _____
No. of students in project team _____

Student Mini-Project Performance Analysis (Put Tick as per your Observation)

Excellent (3)	Very Good(2)	Good(1)			
Sr. No.	**Observation**		**(3)**	**(2)**	**(1)**
1	Usage of effective skill sets				
2	Design and Implementation				
3	Testing and Analysis				
4	Use of standard engineering norms				
5	Cost effectiveness and Societal impact				
6	Contribution of an individual member in team				
7	Overall Presentation & Performance				
Comments:					

Project Guide & Panel Members Signature: 1)
2)

DR. PRADIP S MANE

Name, Date & Signature
Project Coordinator

(Name, Date &Signature)
HOD-Information Technology

EXAMINER'S FEEDBACK FORM

Name of External Examiner:_____

College of External Examiner:_____

Name of Internal Examiner:_____

Date of Examination:____/____/_____ No. of students in project team: 4 Availability of separate lab for the project Yes /No

Student Performance Analysis (Put Tick as per your Observation)

Excellent (3)	Very Good(2)	Good(1)		
Sr. No.	**Observation**	**(3)**	**(2)**	**(1)**
1	Quality of problem and Clarity			
2	Innovativeness in solutions			
3	Cost effectiveness and Societal impact			
4	Full functioning of working model as per stated requirements			
5	Effective use of skill sets			
6	Effective use of standard engineering norms			
7	Contribution of an individual as member or leader			
8	Clarity in written and oral communication			
9	Overall performance			

- Can same mini project extend to next semester by adding new objectives/ideas? (Yes/ No)
- If yes, suggest new Innovative Technique/Idea/ objectives related to this project.

Name, Date & Signature
External Examiner

Name, Date &Signature
Internal Examiner

Name, Date & Signature
HOD- Information Technology