2.3.2 Teachers use ICT enabled tools for effective teaching learning process

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MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING

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

ISO 9001:2015 Certified by RQS | NABCB QM 006 | NAAC

Department of Electronics & Communication Engineering
ODD SEMESTER (2023-2024)

II YEAR ECE				
S.NO	**SUB CODE**	**NAME OF THE SUBJECT**	**NAME OF THE FACULTY**	**WEBSITE REFERENCES**
1	CS3353	C Programming & Data Structures	Mr.Prakash	http://nptel.ac.in/
				https://www.scholarhat.com/tutorial/c/data-structures-in-c
				https://www.youtube.com/watch?v=4OGMB4Fhh50&list=PLBlnK6fEyqRhX6r2uhhlubuF5QextdCSM
2	EC3351	Control System	Mr.Suresh	https://youtu.be/RcuGxWc0HyQ
				https://youtu.be/cLyT6OWcmyU
				https://youtu.be/p8bi5tcSVLg
3	EC3352	Digital System Design	Mr.Rajkamal	https://www.tutorialspoint.com/digital_circuits/digital_circuits_quine_mccluskey_tabular_method.html
				https://www.tutorialspoint.com/digital_circuits/digital_circuits_conversion_of_flip_flops.html
				https://nptel.ac.in/courses/117/106/117106086/
				https://www.digimat.in/nptel/courses/video/108105132/L01.html
4	EC3353	Electronic Devices & Circuits	Mr.kamarajan.M	https://www.youtube.com/watch?v=3h2edx6O6Vc
				https://nptel.ac.in/courses/108/108/108108122/
				https://nptel.ac.in/courses/108/108/108108122/
5	EC3354	Signals & Systems	Ms.Jayanthi.E	https://nptel.ac.in/courses/117/104/171104074/
				https://ocw.mit.edu/resources/res-6-007-signals-and-systems-spring-2011/video-lectures/lecture-6-systems- represented-by-differential-equations/
				https://www.youtube.com/watch?v=c_9JxwuEdqE
6	MA3355	Random Process & Linear Algebra	Ms.Kavitha	https://www.msajce-edu.in/academics/ece/LectureNote/MA3355-LN.pdf
				https://www.stannescet.ac.in/cms/staff/qbank/ECE/Question_Bank/MA3355-RANDOM%20PROCESSES%20AND%20LINEAR%20ALGEBRA-739353433-ECE-MA3355(RPLA)%20QUESTION%20BANK.pdf
				https://www.youtube.com/watch?v=F4vYZ-GFB2g&list=PLOmHrZkA5849EuBGTEfDkQl7kTZ3EL20-

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III YEAR ECE				
S.NO	**SUB CODE**	**NAME OF THE SUBJECT**	**NAME OF THE FACULTY**	**WEBSITE REFERENCES**
1	EC3501	Wireless Communication	Ms.J.Ajeetha Thasneem	https://www.youtube.com/watch?v=kxLcwIMYmr0
				https://nptel.ac.in/courses/117/102/117102062/
				https://freevideolectures.com/course/2329/wireless-communication/32
2	EC3552	VLSI & Chip Design	Mr.Ramesh.K	https://nptel.ac.in/courses/117106092
				https://nptel.ac.in/courses/117/101/117101058/
				https://onlinecourses.nptel.ac.in/noc20_cs67/preview
3	EC3551	Transmission Lines & RF Systems	Mrs.S.Priyadharshini	https://www.pit.ac.in/assets/pdf/be-ece/qb/3/EC8651-TRANSMISSION-LINES-AND-RF-SYSTEMS.pdf
				https://grt.edu.in/wp-content/uploads/2022/04/EC8651-TLRF-PPT_compressed.pdf
				https://www.youtube.com/watch?v=e2iaYLFLjog&list=PLMpCSwrw7iRGoGNkhy_l0Dy6SlGKXs7Dd
4	CEC370	Low Power IC Design	Dr.I.Manju	https://nptel.ac.in/courses/106105034
				nptel.ac.in/courses/117/101/117101004/
5	CEC366	Im age Processing	Ms.B.Murugeshwari	https://www.cet.edu.in/noticefiles/272_Digital-Image-Processing.pdf
				https://www.youtube.com/playlist?list=PLXOYj6DUOGrrjyRKpD0U0bIKGOXCAOHkE
6	CEC367	Industrial IoT & Industry 4.0	Mr.M.Ashok Kumar	https://www.gopalancolleges.com/gcem/course-material/ece/course-plan/sem-VII/image-processing-10EC763.pdf
				https://www.researchgate.net/publication/334366026_Internet_of_Things_in_the_Context_of_Industry_40_An_Overview
				https://www.youtube.com/watch?v=hv-aBonZMRQ&list=PLWbMIWDTOauBvP0ZxvoIshg55WPMF37UI
7	MX3084	Disaster Risk Reduction and Management	Mr.Suresh	https://www.preventionweb.net/files/26081_kp1concepdisasterrisk1.pdf
				https://www.youtube.com/watch?v=72luMEXygz8
				https://www.youtube.com/watch?v=z8VDdZxEG2M&list=PLROvODCYkEM8MtwEVIMMZrCan5rHsLQVn

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IV YEAR ECE				
S.NO	**SUB CODE**	**NAME OF THE SUBJECT**	**NAME OF THE FACULTY**	**WEBSITE REFERENCES**
1	EC8701	Antennas & Microwave Engineering	Ms.Priyadharshini.S	https://nptel.ac.in/courses/108/101/108101092/ https://nptel.ac.in/courses/108/103/108103141/
2	EC8751	Optical Communication	Ms.S.Abida Begum	https://kanchiuniv.ac.in/coursematerials/ECE_COURSE_MATERIAL_ODD%20SEMESTER/ECE_COURSE%20MATERIAL_ODD%20SEMESTER/Dr.J.Vinoth%20Kumar_Optical%20communication.pdf
				https://www.tutorialspoint.com/principles_of_communication/principles_of_optical_fiber_communications.htm
				https://www.youtube.com/watch?v=ougKUUM3hJA&list=PLHj96QRJ0kOhH8xoXXrOgkMf9ZOvjhqY1
3	EC8791	Embedded & Real Time Systems	Ms.J.Ajeetha	https://www.rcet.org.in/uploads/files/LectureNotes/ece/S7/EMBEDDED/UNIT%20I%20INTRODUCTION%20TO%20EMBEDDEDSYSTEM%20DESIGN%20WRITTEN%20NOTES.pdf
				https://www.youtube.com/watch?v=PDYuYGHT668&list=PLYwpaL_SFmcBpuYagx0JiSaM-Bi4dm0hG
				https://www.geeksforgeeks.org/embedded-real-time-system/
4	EC8702	Adhoc & Wireless Sensor Networks	Dr.G.Sivaranjani	https://www.youtube.com/playlist?list=PLV8vIYTIdSnaoFjclogMhXiBFrHSL2Ar1
				https://www.stannescet.ac.in/cms/staff/qbank/ECE/Notes/EC8702-ADHOC%20WIRELESS%20SENSOR%20NETWORK-236105505-AdHOC%20WSN.pdf
5	OMF751	Lean Six Sigma	Dr.S.Prasath	https://www.youtube.com/watch?v=4EDYfSl-fmc&list=PLEiEAq2VkUUIPW1oBXy5PNbdeV1frCQkT&index=1
				https://www.communitycareks.org/wp-content/uploads/2018/09/LEAN_Six-Sigma_KAMU.pdf

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EVEN SEMESTER				
II YEAR ECE				
S.NO	**SUB CODE**	**NAME OF THE SUBJECT**	**NAME OF THE FACULTY**	**WEBSITE REFERENCES**
1	EC3451	Linear Integrated Circuits	Mr.kamarajan.M	https://nptel.ac.in/courses/117/107/117107094/
				https://www.youtube.com/playlist?list=PLPD7Ds2_Il0ggKZeS7jsx8N7k1DovnjTg
2	EC3401	Networks and Security	Mrs.Jayanthi.E	https://www.geeksforgeeks.org/network-security/
				https://www.youtube.com/playlist?list=PLzQqHxFtQGyfiYWaDnasLdy1JPK3JS06o
3	GE3451	Environmental Sciences and Sustainability	Mrs.Nithya.A	https://open.maricopa.edu/environmentalscience/chapter/environmental-science-and-sustainability/
				https://www.youtube.com/watch?v=MtpxOdtS9KU&list=PL3qvHcrYGy1u2egw2tipHWODV6elVC2Gg
4	EC3452	Electromagnetic Fields	Mr.Vijay.R	https://nptel.ac.in/courses/108/106/108106073/
				https://nptel.ac.in/courses/117/103/117103065/
5	EC3491	Communication Systems	Ms.Omana.R	https://www.youtube.com/playlist?list=PLb2wGSuEdRG8lKGO4q7NXE6QDWISAsBkZ
				https://www.researchgate.net/publication/282023883_Introduction_to_Communication_Systems
6	EC3492	Digital Signal Processing	Dr.Manju.I	https://freevideolectures.com/course/2329/wireless-communication/32
				https://ocw.mit.edu/resources/res-6-008-digital-signal-processing-spring-2011/video-lectures/lecture-17-design-of-fir-digital-filters/
				https://freevideolectures.com/course/2339/digital-signal-processing-iitkharagpur/32

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III YEAR ECE				
S.NO	SUB CODE	NAME OF THE SUBJECT	NAME OF THE FACULTY	WEBSITE REFERENCES
1	CS3491	Artificial Intelligence & Machine Learning	Ms.K.R.Kartheeswari	https://mrcet.com/downloads/digital_notes/ECE/III%20Year/AI%20&%20ML%20DIGITAL%20NOTES.pdf
				https://www.youtube.com/watch?v=6WmtIaIX-bQ
2	CEC347	Radar Technologies	Mr.M.Kamarajan	https://mimo.mit.edu/wp-content/uploads/2023/03/mimoDLW23.pdf
				https://www.youtube.com/watch?v=w_u8mQpTuhc
3	CEC368	IoT based System Design	Ms.J.Ajeetha Thasneem	https://profile.iiita.ac.in/bibhas.ghoshal/IoT_2021/Slides/Lecture2_IoT_System_Design.pdf
				https://www.youtube.com/playlist?list=PLgwJf8NK-2e6FvFUItZbGYnKiqjrlLpCb
4	ET3491	Embedded & IoT Systems	Mr.M.Ashok Kumar	https://www.youtube.com/playlist?list=PLMpCSwrw7iRHWlxevyTK78VP1PTjA26Iq
				https://www.aalimec.ac.in/wp-content/uploads/Material/cse/3/CS3691%20Embedded%20Systems%20and%20IoT%20watermark-1-99.pdf
5	CEC331	4G/5G Communication Networks	Ms.S.Anusuya	https://www.youtube.com/playlist?list=PLRNjQT2Jz4W1vwflJB00FNv7VBr1wi0rp
				https://www.stannescet.ac.in/cms/staff/qbank/ECE/Notes/CEC331-4G-5G%20COMMUNICATION%20NETWORKS-1178000861-4g5g%20notes.pdf
6	OEE351	Renewable Energy Systems	Mrs.V.Shobana	https://www.youtube.com/playlist?list=PLcWcvGXrBFeRV7f9oyuuX9RabYUuanGrK
				https://www.cet.edu.in/noticefiles/232_RENEWABLE_ENERGYSYSTEMS.pdf
7	MX3089	Industrial Safety	Mr.M.Suresh	https://www.researchgate.net/profile/Mohd-Parvez/publication/323918225_Chapter_02/data/5ab294fda6fdcc1bc0c1e414/Chapter-02.pdf?origin=publication_list
				https://www.youtube.com/playlist?list=PLbRMhDVUMngdXebaRB59KdKwstzuAovua

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IV YEAR ECE				
S.NO	**SUB CODE**	**NAME OF THE SUBJECT**	**NAME OF THE FACULTY**	**WEBSITE REFERENCES**
1	GE8076	Professional Ethics in Engineering	Mr.K.Sunil Kumar	1. www.onlineethics.org 2. www.nspe.org 3. www.globalethics.org 4. www.ethics.org
2	EC8094	Satellite Communication	Dr.G.Sivaranjani	https://www.youtube.com/playlist?list=PLBhOIfqz1QTaL6TTTn1Q1xFlqMOQiylL7 https://kanchiuniv.ac.in/coursematerials/SATELLITE_COMMUNICATION.pdf

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Power Point & Innovative Teaching Methodology

Presentation on Smart city

DONE BY: LEELAMBIKAI. P
DEPT: B.TECH IT REG; NO -311822205021

Content

- What is a Smart City
- Key IOT Technologies powering Smart Cities
- Improving City infrastructure and services
- Enhancing public safety and emergency response
- Optimizing energy and Resources management
- Fostering community engagement and citizen participation
- Challenge and considerations for smart City implementation

What is a Smart City?

Data-Driven Decisions

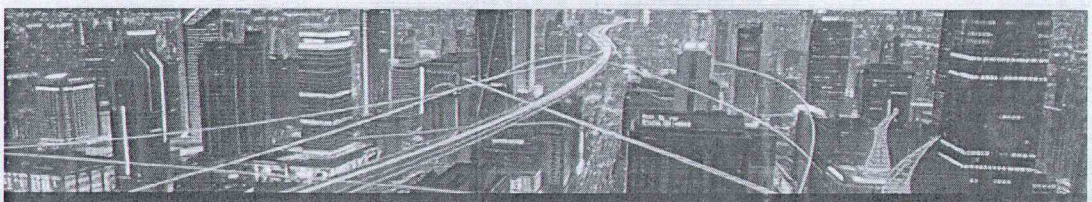
Leveraging real-time data from various sources to optimize city services and infrastructure.

Citizen-Centric Approach

Improving quality of life by enhancing accessibility, safety, and overall well-being.

Sustainable Solutions

Reducing environmental impact through energy efficiency, waste management, and resource optimization.



Key IoT Technologies Powering Smart Cities

1 **Sensor Networks**

Collecting data from various sources, including traffic, weather, and environmental conditions.

2 **Cloud Computing**

Storing, processing, and analyzing vast amounts of data collected from sensors.

3 **Artificial Intelligence (AI)**

Enabling predictive analytics, pattern recognition, and automated decision-making.

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Improving City Infrastructure and Services

Traffic Management

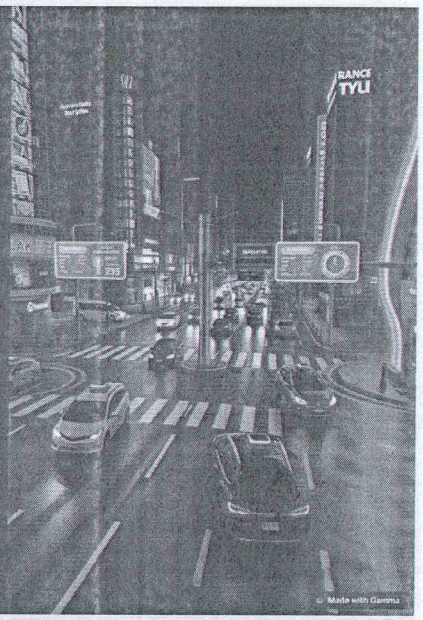
Optimizing traffic flow, reducing congestion, and improving safety with connected traffic signals and sensors.

Smart Parking

Real-time parking availability, guided parking assistance, and optimized parking management systems.

Waste Management

Optimizing waste collection routes, real-time monitoring of waste levels, and promoting recycling initiatives.



Enhancing Public Safety and Emergency Response

Crime Prevention

Utilizing surveillance cameras, sensor networks, and predictive analytics to deter crime and enhance security.

Emergency Response

Improving emergency response times, optimizing resource allocation, and providing real-time situational awareness.

Citizen Safety

Deploying smart devices, such as wearables and mobile apps, to provide assistance and safety measures to citizens.

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Optimizing Energy and Resource Management

Smart Grid

Managing energy production, distribution, and consumption in real-time, maximizing efficiency and reliability.

Water Conservation

Monitoring water usage, detecting leaks, and optimizing irrigation systems to conserve water resources.

1 2 3

Renewable Energy Integration

Integrating renewable energy sources like solar and wind power to reduce carbon footprint and promote sustainability.

Fostering Community Engagement and Citizen Participation

1

Citizen Feedback

Providing platforms for citizens to report issues, share feedback, and participate in decision-making processes.

2

Transparent Governance

Making information accessible and readily available to citizens through digital platforms and open data initiatives.

3

Community Engagement

Encouraging citizen participation in community projects, events, and initiatives through online platforms and social media.

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TYPES of Arduino Board

Prepared by
P. Sharmi Sri
B.Tech IT
311822205058

10

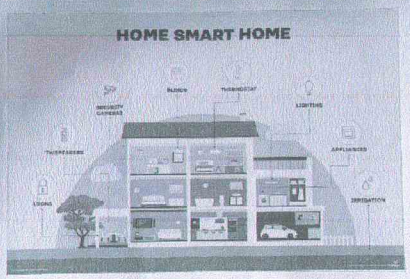
SMART HOME AUTOMATION

SMART PET AND LAWN CARE.
Pet Cams can be automated with connected feeders. Houseplants and lawns can be watered using connected timers.

SMART TV's
These TVs Connect to the internet to access content through applications, such as On-demand Video & Music. Some Smart TVs also include Voice or gesture recognition.

SMART LIGHTING SYSTEMS.
In addition to being able to controlled remotely and customized, Smart lighting systems can detect when occupants are in the room & adjust lighting as needed. Smart lightbulbs can also regulate themselves based on daylight availability.

SMART KITCHEN APPLIANCES
Brand such as GE, LG and Samsung offer Smart kitchen appliances of all sorts. These appliances include smart coffee makers that can brew a fresh cup automatically at a programmed time, Smart refrigerators that keep track of expiration dates, make shopping lists or even create recipes based on ingredients currently on hand; Slow cookers & toasters; and, in the laundry room, washing machines and dryers.



SMART THERMOSTATS
Smart thermostats, such as Google Nest, come with integrated Wi-Fi, letting Users schedule, monitor and remotely control home temperatures. These devices also learn homeowner's behaviours & automatically modify settings to provide them with maximum comfort & efficiency. Smart thermostats can also report energy use & remind Users to change filters.

SMART HOME MONITORS
Household System monitors can, for example, sense a power surge & turn off appliances, sense water failures or freezing pipes and turn off the water to the home automatically.

SMART SECURITY CAMERAS AND SYSTEMS.
With Smart Security Cameras & doorbells, such as Ring, residents can monitor their homes when they're away. Smart motion sensors can identify the difference between residents, visitors, pets & burglars & can send notification to authorities if suspicious behaviour is detected.

SMART DOOR LOCKS AND GARAGE DOOR OPENERS
Home Owners can use smart locks and garage door openers to grant on demand access to visitors. Smart locks can also detect when residents are near and unlock the doors for them.

SMART PLUGS
These Connect to wall sockets to transform simple home devices, such as lamps and ceiling fans, so they can be controlled remotely via mobile apps and voice assistants such as Alexa.

B. Dhanalakshmi
III Yr IT.

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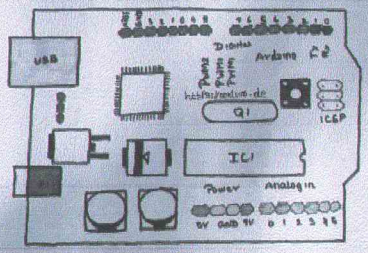
ARDUINO



- Analog Reference Pin
- Digital Ground
- Digital Pin 2-13
- Reset Button
- In-Circuit Serial programmer
- Analog In Pins 0-5
- Toggle External Power and USB Power
- USB

=> Arduino is a Software as well as hardware Platform that helps in making electronic Project

=> It is an open source Platform

=> There are various types of Arduino board used for various Purpose

Arduino board can be used for general Purpose input & output

=> pinmode(), digitalRead(), digitalwrite() Commands

=> Each Pin has an Internal Pull-up resistor which can be turned on and off using

=> digitalwrite() (w/a value of HIGH or low) when the Pin is configured as an Input

=> The max Current Per Pin is 40 ma

K.Kaviya
311822205020

Home Automation

Definition : Technology to automate and control home devices remotely or automatically.

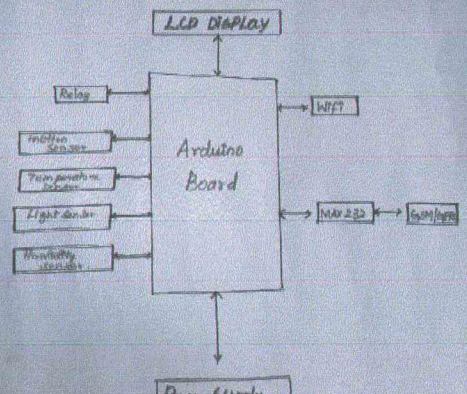
Core Features :

Automation : Devices operate on schedules or triggers
eg: lights turning on at sunset.

Remote control : Access systems via smartphones, tablets or voice assistants

Integration : Centralized control of lighting, HVAC, security and appliances.

Personalization : Custom setting for users, time or events.



Applications :

Lighting control : Automated brightness and color adjustments

Smart security : Door locks, cameras and alarms

Entertainment : Sync music and video across devices

Appliance management : Control of washing machines, refrigerators and ovens.

Energy management : Monitor and reduce energy usage.

Elderly care : Fall detection and medication reminders.

Advantages :

Convenience and comfort

Enhanced safety and security

Energy savings and sustainability

Remote monitoring and control

Challenges :

Cost : High initial investment.

Complexity : Requires integration and technical understanding.

Security risks : Vulnerable to hacking if not secured properly.

How it works :

Sensors : Detect changes

Controllers : Mobile apps or hubs send commands

Actuators : Execute commands [eg: turning on device]

Done By : A. Asma
B. Tech - Information Technology

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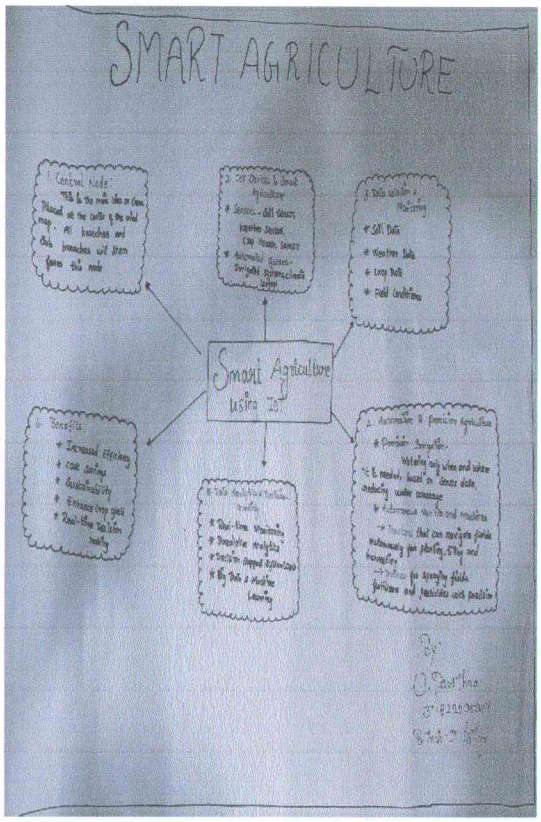
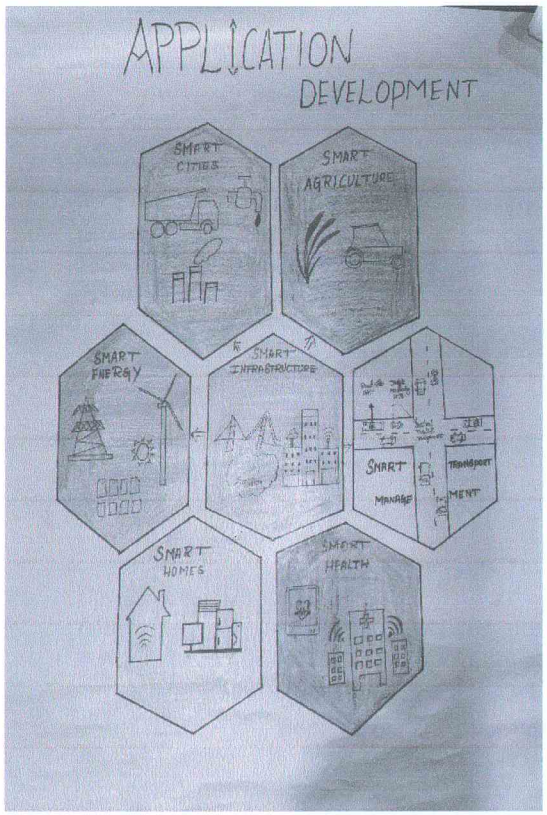
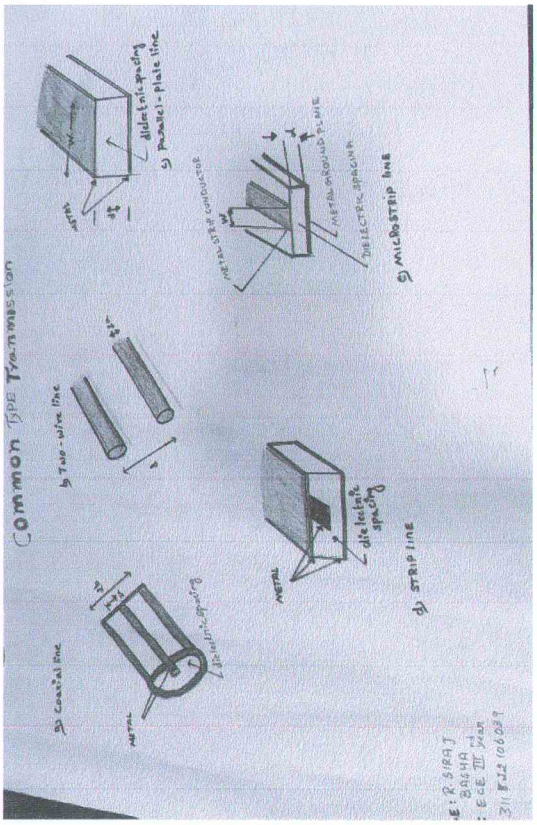
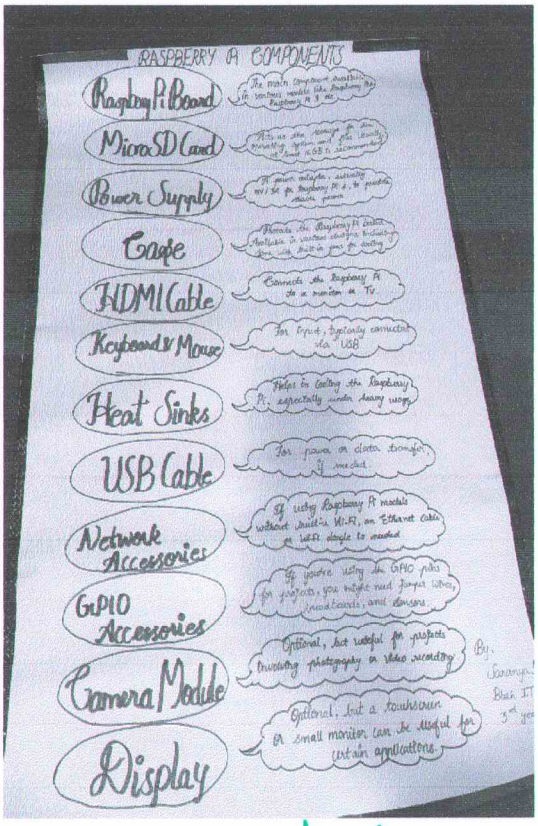
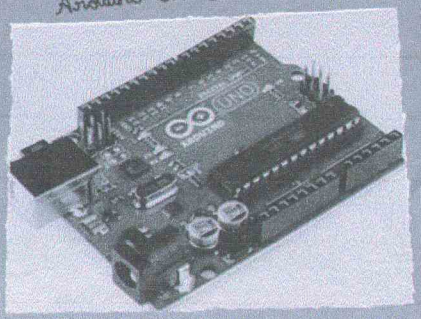








Arduino UNO 3



Hardware and Performance:

ATmega 328P Microcontroller: 8-bit AVR Processor with 32KB Flash memory.

14 Digital I/O Pins: 6 PWM Outputs, UART, SPI and I2C interface.

Connectivity:

USB Connectivity: Easy Programming and Communication via USB Cable

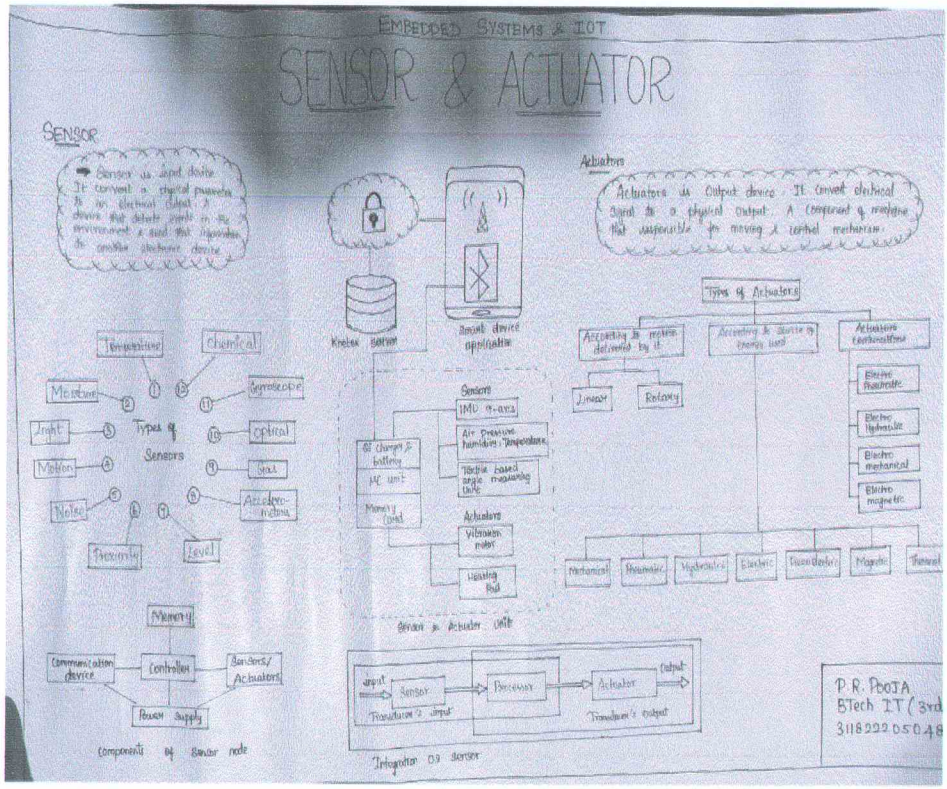
Power and Memory:

5V/3.3V Dual voltage: Flexible Power supply options.

2 KB SRAM, 1KB EEPROM: Efficient memory management for project

EMBEDDED SYSTEMS & IOT

SENSOR & ACTUATOR



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Department of Electronics & Communication Engineering					
Innovation Teaching Methodology					
Odd Semester 2023-2024					
S.No	**Year**	**Subject Name**	**Faculty Name**	**Topic**	**ITM Used**
1	II Yr	EC3354- SS	Mrs.E.Jayanthi	CT signals/LTI-CT systems/ LTI -DT systems	Mind map/Case study/ Quiz
2		EC3353-EDC	Mr.kamarajan.M	Feedback amplifiers & Oscillators/ Multistage amplifier and Differential amplifier	Mind map/Quiz
3		EC3351- CS	Mr.Suresh	Frequency response analysis	Group projects (Simulation)
4		EC3352-DSD	Mr.Rajkamal	K map Simplifications	Quiz
1	III Yr	EC3501- DC	Ms.J.Ajeetha Thasneem	PCM and Line Codes	Quiz (team activity)
2		EC3552-VLSI & Chip Design	Mr.Ramesh.K	Basic concepts of Verilog HDL / MOS Transistor & Stick Diagram.	Quiz
3		EC3551-TLRF	Mrs.S.Priyadharshini	Frequency planning of Transceiver	Case Studies
4		CEC370-LPIC	Dr.I.Manju	Low voltage Low power multiplier	Quiz
5		CEC366-IP	Ms.B.Murugeshwari	Image segmentation	Seminar
6		CEC367-IIOT	Mr.M.Ashok Kumar	Arduino Programming	Programming Tutorial
1	IV Yr	EC8701-AME	Mrs.S.Priyadharshini	Smart Antennas	Quiz
2		EC8751- OCN	Ms.S.Abida Begum	Soltion pulse shaping	Role play
3		EC8791-ERTS	Ms.J.Ajeetha	ARM processor &Peripherals	Mind map

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4		EC8702-Adhoc &WSN	Dr.G.Sivaranjani	Cluster &Routing	Team Quiz
5		OMF751-LSS	Dr.S.Prasath	Fish bone diagram	Poster Presentation

Even Semester 2023-2024					
S.No	**Year**	**Subject Name**	**Faculty Name**	**Topic**	**ITM Used**
1	II Yr	EC3452-EMF	Mr.Vijay.R	Elements of Electromagnetics	ICT enabled learning using scilab.cloud platform
2		EC3451-LIC	Mr.M.Kamarajan	Oscillators	Virtual Lab Demo
3		EC3401-NS	Mrs.Jayanthi.E	RSA algorithm	Role Play
4		EC3492-DSP	Dr.I.Manju	Applications of DSP	Mini project
5		EC3491- CS	Ms.Omana.R	AM/DM	Mini project/Brownbag approach
6		GE3451-EVS	Mrs.Nithya.A	Renewable Source of Energy	Mistake–Led teaching
1	III Yr	ET3491-E&IOT	Mr.M.Ashokkumar	ALP using 8086	Role Play
2		CS3491- AIML	Ms.K.R.Kartheeswari	Machine learning Types and algorithms	Mind map
3		CEC368 - IOT BSD	Ms.J.Ajeetha Thasneem	Applications of IoT.	Group Project
4		CEC331- 4G/5G	Mrs.S.Anusuya	Cellular Technology	Case study Presentation
1	IV Yr	GE8076- PEE	Mr.K.Sunil Kumar	Ethics in Engineering	Case Studies
2		EC8094- SC	Dr.G.Sivaranjani	Multiple Access Techniques	Role Play

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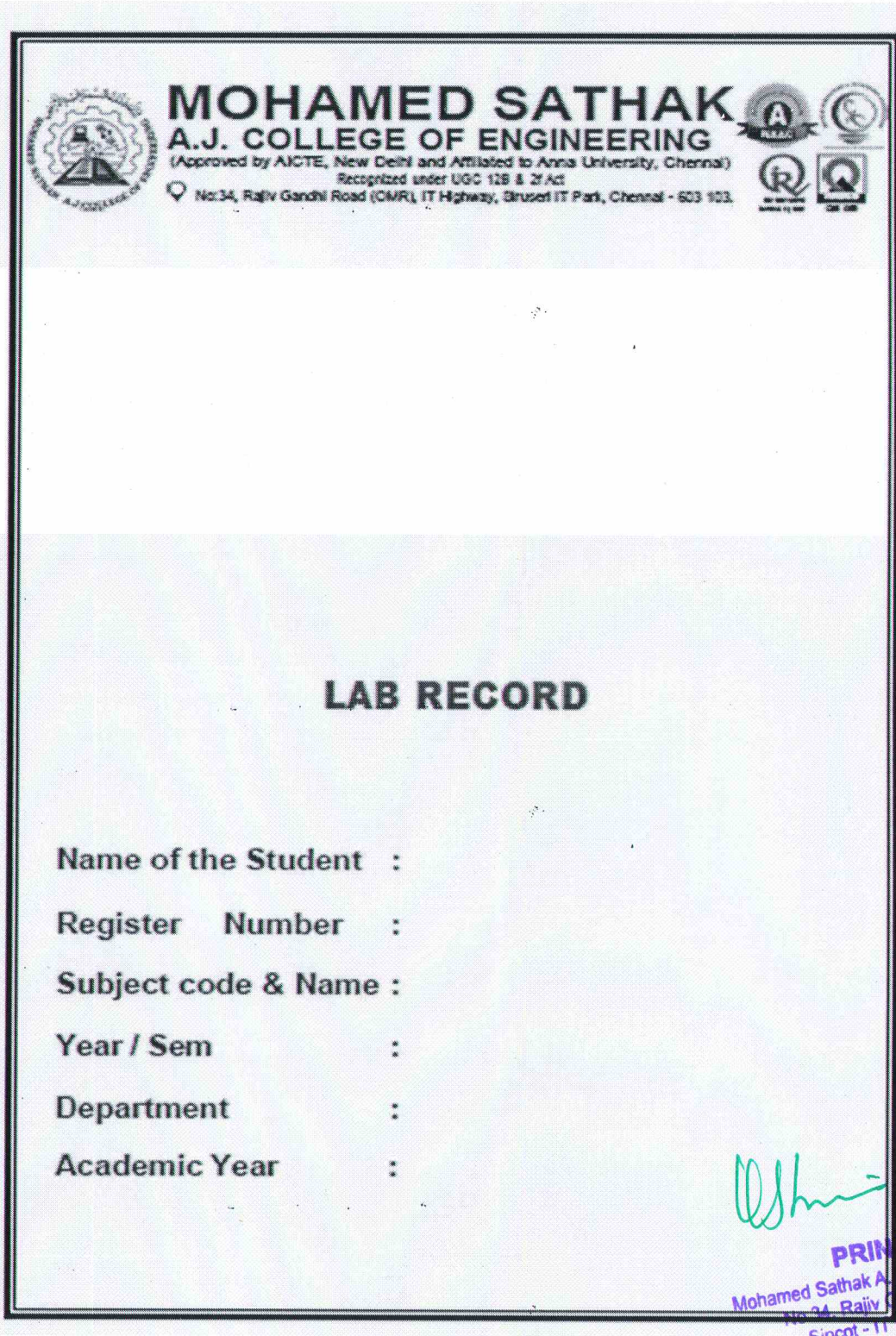
LAB MANUALS



Lab manual Front page

MOHAMED SATHAK
A.J. COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Recognized under UGC 12B & 2f Act

BONAFIDE CERTIFICATE

This is to certify that Mr./Ms ..... of ..... year ..... Semester B.E. / B.Tech (.....) is a bonafide student bearing the Reg. No. ..... record of work done in the ..... lab during the academic year 20 -20

Faculty in-charge **Head of the Department**

Submitted for the Practical Examination held on .....

Internal Examiner **External Examiner**

Page of Bonafide Certificate

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Department of Computer Science and Engineering

Vision

To be a centre of excellence for transforming students into proficient Computer Science Engineers through sustainable practices.

Mission

M1. Impart core fundamental knowledge and necessary skills in Computer Science and Engineering through innovative teaching and learning methodology.

M2. Inculcate critical thinking, ethics, lifelong learning and creativity needed for industry and society.

M3. Cultivate the students with all-round competencies, for career, higher education and Self-Employability.

PEOs / PSOs / PO

Programme Educational Objectives (PEOs)

PEO1. Graduates will be prepared for designing Electronics and Communication components and systems with creativity and sustainability.

PEO2. Graduates will be skilled in the use of modern tools for critical problem solving and analyzing industrial and societal requirements.

PEO3. Graduates will be prepared with managerial and leadership skills for career and starting up own firms.

Program Specific Outcomes (PSOs)

Engineering Graduates will be able to

PSO1. Develop creative solutions by adapting emerging technologies / tools for real time applications of Industry.

PSO2. Apply the acquired knowledge to develop software solutions and innovative mobile apps for various automation applications.

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Programme Outcomes (PO)

PO1.	**Engineering knowledge:** Apply the knowledge of Transforms, Probability and Random Process including material science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO2.	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using engineering sciences.
PO3.	**Design/development of solutions:** Design solutions for complex Electronics and communication engineering problems and design the system components or processes that meet the specified needs with appropriate consideration for the public health, electrical safety, the cultural, societal, and environmental considerations.
PO4.	**Conduct investigation of complex problem:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5.	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6.	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7.	**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.
PO8.	**Ethics:** Apply ethical principles and commit to professional ethics, responsibilities and Standards.
PO9.	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10.	**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.
PO11.	**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.
PO12.	**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.

Department of CSE - Vision and mission and programme objectives and outcome

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S.No	Date	Name of the experiment	Marks Awarded-Day to Day activities				Sign of the Faculty with Date
			Performing the experiment (5 Marks)	Completion of Record Work (5 Marks)	Technical Knowledge (5 Marks)	Attendance (5 Marks)	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

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11							
12							
13							
14							
15							

Internal Calculation	Max. Marks	Marks Awarded	Sign of the Faculty
Average of Day-to-Day Activity	20		
Mini Project	10		
Model Exam	10		
Assignment/Simulation	10		
Total	50		

Sign of the Student **Sign of Lab Incharge**

Format no.: LA 12b Rev No: 0.0 Rev Date: 08.11.23

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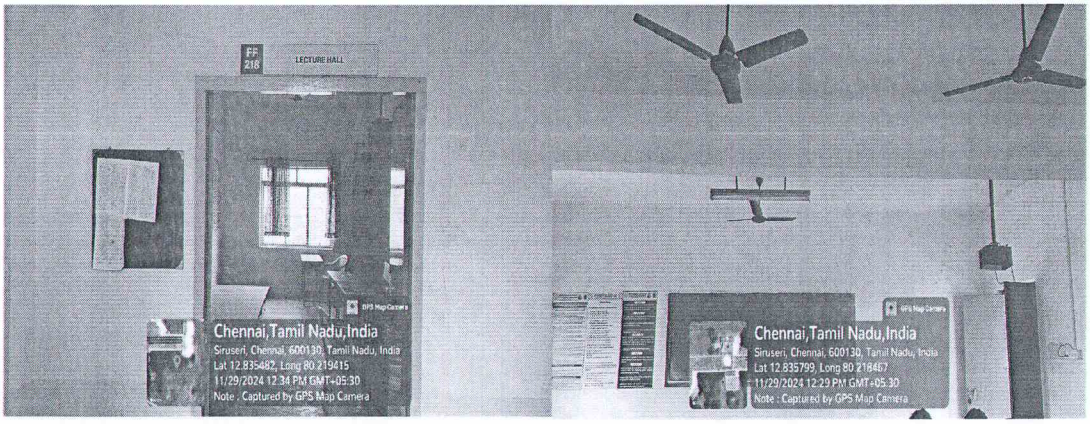
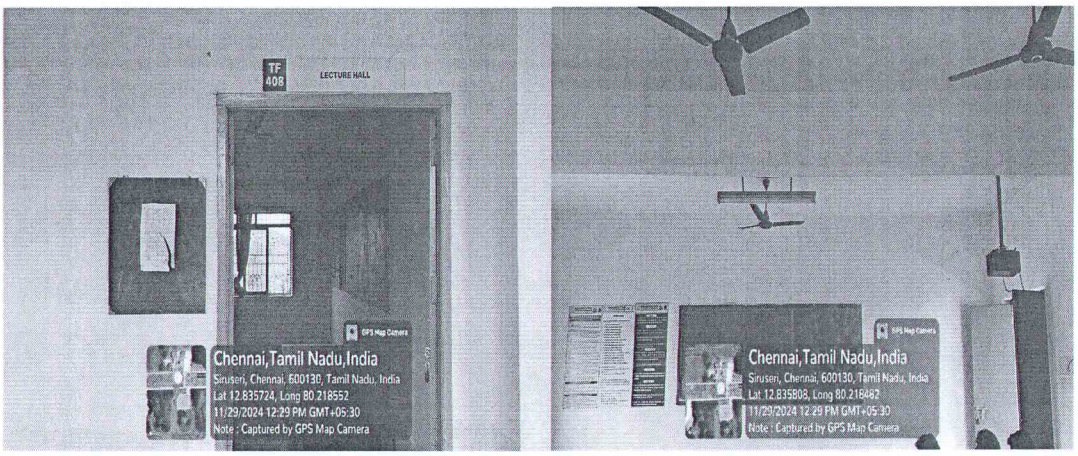
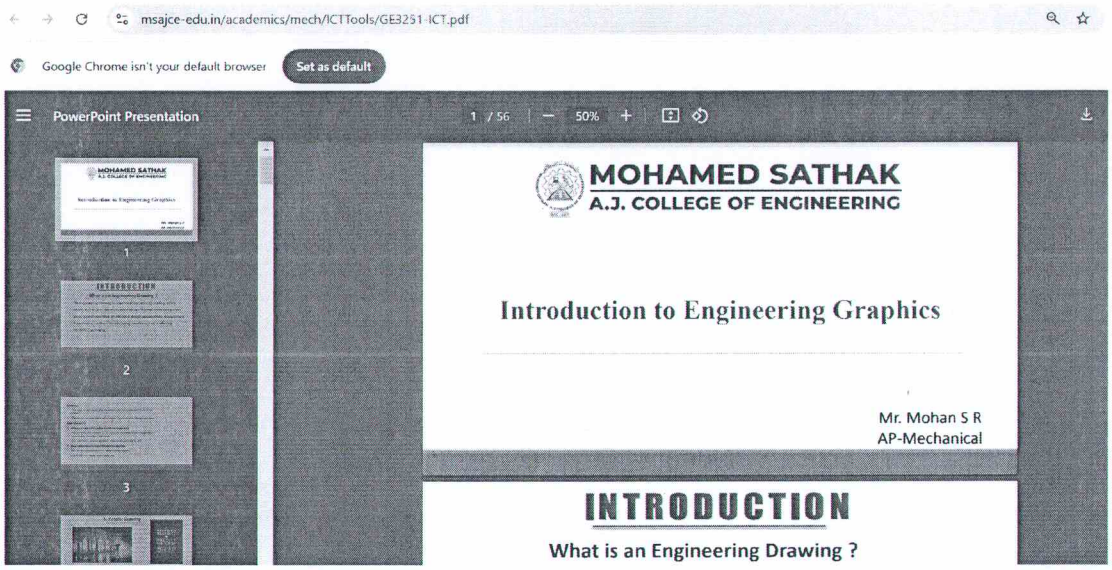
ICT Enabled Class Room with PPT



ECE Class Room



CSC Class Room



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E Resources

Innovation teaching methods

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Department of ECE

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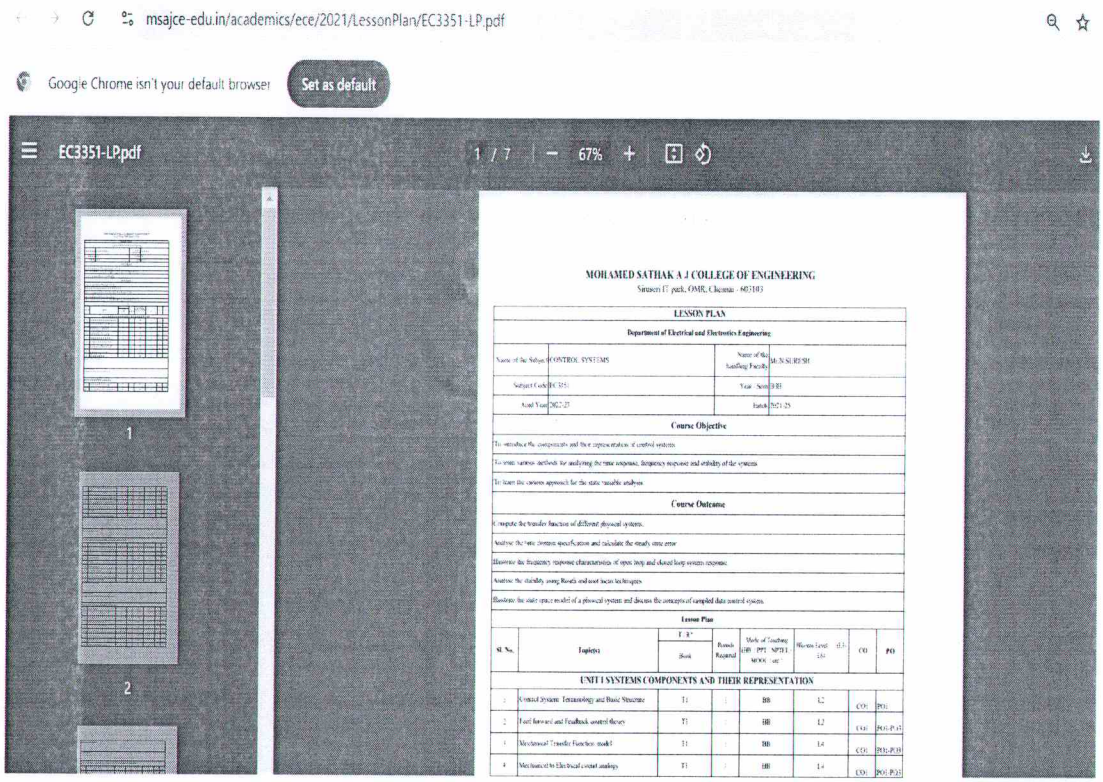
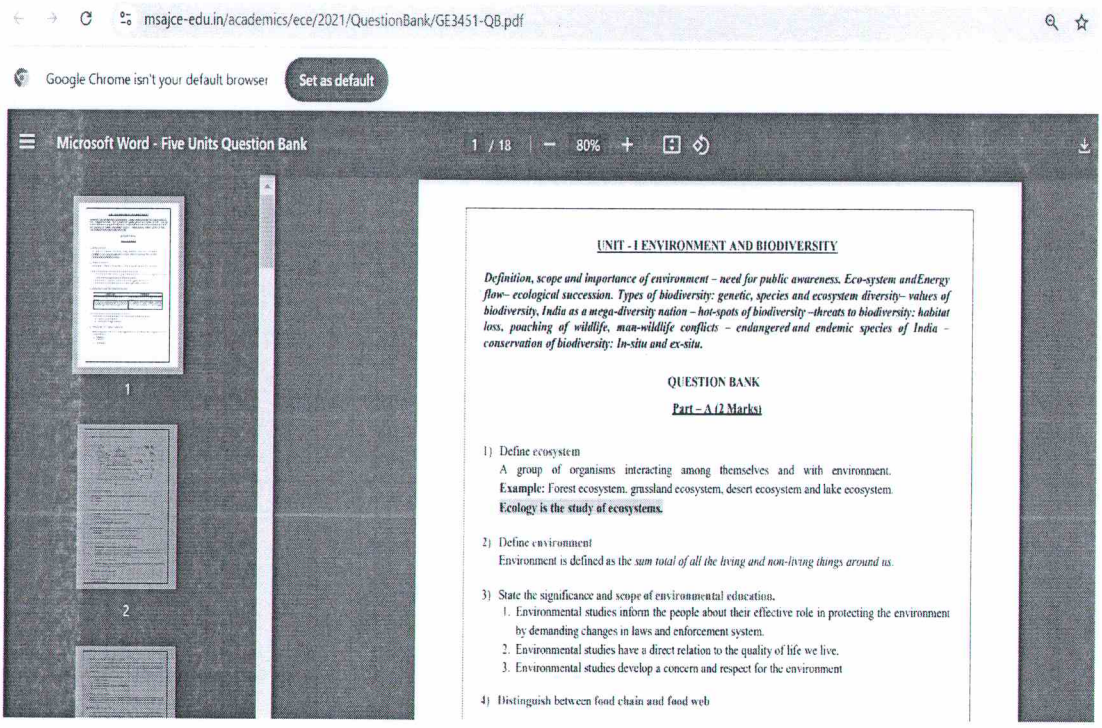


EEE - Lesson Plan



Question bank

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