



2.3.2 Teachers use ICT enabled tools for effective teaching learning process

S.No	Description	Page Number
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MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING

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



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=PLBlnK6fEYqRbX6r2uhhluBuF5QextdCSM https://youtu.be/RcuGxWc0HyQ
2	EC3351	Control System	Mr. Suresh	https://youtu.be/cLyT6OWcmyU https://youtu.be/p8bi5tcSVLg
3	EC3352	Digital System Design	Mr. Rajkamal	https://www.tutorialspoint.com/digital_circuits/digital_circuits_quine_mcluskey_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=3h2dx6O6Vc https://nptel.ac.in/courses/108/108/108108122/ https://nptel.ac.in/courses/108/108/108108122/ https://nptel.ac.in/courses/117/104/117104074/
5	EC3354	Signals & Systems	Ms. Jayanthi.E	https://oew.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_9JxwnEdqE
6	MA3355	Random Process & Linear Algebra	Ms. Kavitha	https://www.msajce-edu.in/academics/eee/LectureNote/MA3355-LN.pdf https://www.stamesset.ac.in/cms/stat/qbank/ECE/Question_Bank/MA3355-RANDOM/%20LINEAR%20ALGEBRA-739333433-ECE-MA3355(RPLA)%20QUESTION%20BANK.pdf https://www.youtube.com/watch?v=F4vYZ-GFB2g&list=PLOmHrZkA5849EuBGTEDKQJ7kTZ3EL20-

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III YEAR ECE

S.NO	SUB CODE	NAME OF THE SUBJECT	NAME OF THE FACULTY	WEBSITE REFERENCES
1	EC3301	Wireless Communication	Ms.J.Ajeetha Thasneem	https://www.youtube.com/watch?v=kxLewIMYmr0 https://nptel.ac.in/courses/117/102/117102062/ https://freevidelectures.com/course/2329/wireless-communication/32 https://nptel.ac.in/courses/117/106/092
2	EC3352	VLSI & Chip Design	Mr.Ramesh.K	https://nptel.ac.in/courses/117/101/117101058/ https://onlinecourses.nptel.ac.in/noc20_cs67/preview
3	EC3351	Transmission Lines & RF Systems	Mrs.S.Priyadharshini	https://www.pit.ac.in/assets/pdf/be-ecce/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=e2iaYLFJjog&list=PLMPCswrw7iRGoGNkhy_10Dy6S1GKXs7Dd https://nptel.ac.in/courses/106/105/034
4	CEC370	Low Power IC Design	Dr.L.Manju	https://nptel.ac.in/courses/117/101/117101004/
5	CEC366	Image Processing	Ms.B.Murugeswari	https://www.cet.edu.in/noticefiles/272_Digital-Image-Processing.pdf https://www.youtube.com/watch?v=PLXOYj6DUOGrrjyRkpdDU0hKGOXCAOHKE https://www.gopalancolleges.com/gcem/course-material/ece/course-plan/sem-VII/image-processing-10EC763.pdf
6	CEC367	Industrial IoT & Industry 4.0	Mr.M.Ashok Kumar	https://www.researchgate.net/publication/334366026_Internet_of_Things_in_the_Context_of_Industry_40_An_Overview https://www.youtube.com/watch?v=iv-aBonZMRQ&list=PLWbMIWDT0auBvP0Zxvdlshg55WPMF37UJ https://www.preventionweb.net/files/26081_kp1conceptdisasterrisk1.pdf
7	MX3084	Disaster Risk Reduction and Management	Mr.Suresh	https://www.youtube.com/watch?v=72luMEXygz8 https://www.youtube.com/watch?v=z8VDqZEG2M&list=PLROVODCYREM8MfwEVMIMZrCam5HslLQVn

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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/ 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
2	EC8751	Optical Communication	Ms.S.Abida Begum	https://www.youtube.com/watch?v=ougKUUM3hJA&list=PLHj96QRJ0k0HH8xoXXrOgkMf9ZO_vjhgY1 https://www.rcet.org.in/uploads/files/LectureNotes/eee/S7/EMBEDDED/UNIT%20I%20INTRODUCTION%20TO%20EMBEDDED%20SYSTEM%20DESIGN%20WRITTEN%20NOTES.pdf
3	EC8791	Embedded & Real Time Systems	Ms.J.Ajeetha	https://www.youtube.com/watch?v=PDYrUYGHT668&list=PLYwpaL_SFmcBpuYagx0iSaM-Bh4dm0hG https://www.geeksforgeeks.org/embedded-real-time-system/
4	EC8702	Adhoc & Wireless Sensor Networks	Dr.G.Sivaranjani	https://www.youtube.com/watch?v=4EDYfSI-fmc&list=PLEIEAq2VKAUIPW1oBXy5PNbdeV1fCQkT&index=1 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.communitycareks.org/wp-content/uploads/2018/09/LEAN_Six-Sigma_KAMU.pdf


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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=PLPD7D82_I0ggKzE7jss8N7k1DovrjJlg
2	EC3401	Networks and Security	Mrs.Jayanthi.E	https://www.geeksforgeeks.org/network-security/ https://www.youtube.com/playlist?list=PLzQqHxfrQGYfYyWaDnasLdyLJPK3IS06o
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=MtpxOdIS9KU&list=PL3qvHcrYGYlu2egv2ipHWODV6eIVC2Gg
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=PLb2wGSuEdRG8IKGO4q7NXE6QDWISAsBkZ 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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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://nrcet.com/downloads/digital_notes/ECE/III%20Year/AI%20&%20ML%20DIGITAL%20NOTES.pdf https://www.youtube.com/watch?v=6Wmtlax-bQ
2	CEC347	Radar Technologies	Mr.M.Kamarajan	https://mimo.mti.edu/wp-content/uploads/2023/03/mimoDLW23.pdf https://www.youtube.com/watch?v=w_u8mOpTuhc
3	CEC368	IoT based System Design	Ms.J.Ajeetha Thasneem	https://profile.iitaa.ac.in/bibhas.ghoshal/IoT_2021/Slides/Lecture2_IoT_System_Design.pdf https://www.youtube.com/playlist?list=PLgwJ8NK-2s6FvUJZbGYnKiqjrlpCb
4	ET3491	Embedded & IoT Systems	Mr.M.Ashok Kumar	https://www.youtube.com/playlist?list=PLMpCSwrw7IRHWkxevyTK78VPIPTJA261q https://www.aalimce.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=PLRNjQT2Jz4W1vwfJB00FNv7VBr1wi0tp 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=PLcWcVxGXtBFerV7f9oyuuX9RabYUuanGrk 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=PLBRMhdYUMngdXebARBS9KdKwszruAovua



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 Chennai - 600103.

IV YEAR ECE			
S.NO	SUB CODE	NAME OF THE SUBJECT	NAME OF THE FACULTY
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=PLBHOIfgzlQTaL6TTn1Q1xFlqMOQiyIL7 https://kanchiuniv.ac.in/coursematerials/SATELLITE_COMMUNICATION.pdf
			WEBSITE REFERENCES


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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



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What is a Smart City?

Data-Driven Decisions

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

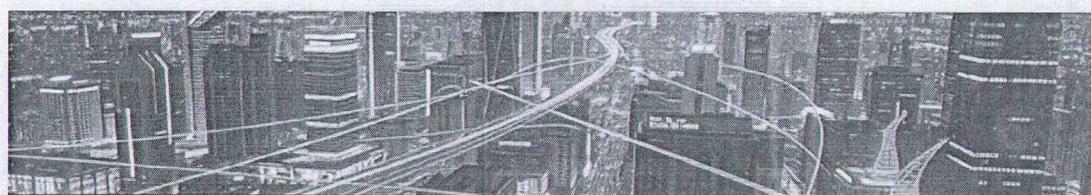
Citizen-Centric Approach

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.

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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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A handwritten signature in green ink, appearing to be 'Sathak', written in a cursive style.

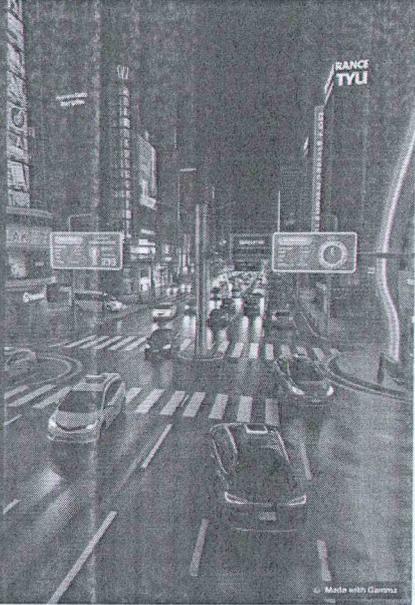
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Improving City Infrastructure and Services

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.



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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

<p>Smart Grid</p> <p>Managing energy production, distribution, and consumption in real-time, maximizing efficiency and reliability.</p>	<p>Water Conservation</p> <p>Monitoring water usage, detecting leaks, and optimizing irrigation systems to conserve water resources.</p>
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1	2	3
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Renewable Energy Integration

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

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Fostering Community Engagement and Citizen Participation

1	<p>Citizen Feedback</p> <p>Providing platforms for citizens to report issues, share feedback, and participate in decision-making processes.</p>
2	<p>Transparent Governance</p> <p>Making information accessible and readily available to citizens through digital platforms and open data initiatives.</p>
3	<p>Community Engagement</p> <p>Encouraging citizen participation in community projects, events, and initiatives through online platforms and social media.</p>

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TYPES of Arduino Board

Prepared by

P. Sharmi sri
B.Tech IT

311822205058

SMART HOME AUTOMATION

SMART PET AND LAWN CARE

Pet Care can be automated with connected feeders. Houseplants and lawns can be watered using connected timers.

SMART TV'S

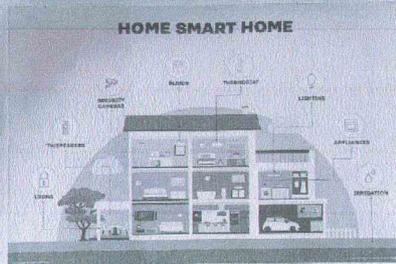
These TVs connect to the internet to access content through applications, such as on-demand video & music. Some Smart TVs also include voice or gesture recognition.

SMART LIGHTING SYSTEMS

In addition to being able to control 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 iRobot, GE and Samsung offer smart kitchen appliances of all sorts. These appliances include smart coffee makers that can brew a first cup automatically at a programmed time. Smart refrigerators that keep track of expiration dates, make shopping lists or even cook recipes based on ingredients currently in 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 homeowners' 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 leakage on plumbing pipes and turn off the water to the home clean-in-place.

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, pet & burglars & can send notification to authorities if suspicious behaviour is detected.

SMART DOOR LOCKS AND GARAGE DOOR OPENS

Home Owners can use smart locks and garage door opens to grant or deny access to visitors. Smart locks can also detect when residents are near and unlock the doors for them.

SMART PLANTS

These connect to water 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.

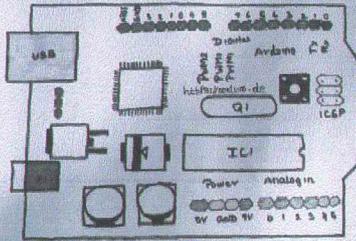
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ARDUINO



- 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

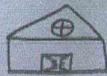
⇒ It is an open source Platform

⇒ There are various types of Arduino board used for various Purpose

Arduino board can be used for general Purpose Input & Output

- ⇒ Pin modes, digitalRead(), digitalWrite() Commands
- ⇒ Each Pin has an Internal Pull-up resistor which can be turned on and off using
- ⇒ digitalWrite() (via value of HIGH or LOW) when the Pin is configured as an Input
- ⇒ The Max Current Per Pin is 40mA

K. Kaviya
311822205020



Home Automation

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

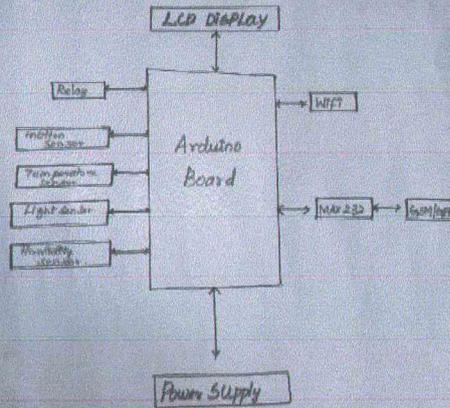
Core Features:

- 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 settings for users, time or events.

How it works:

- Sensors:** Detect changes
- Controllers:** Receive inputs and commands
- Actuators:** Execute commands (eg: turning on devices)

Done by: A. Aana
B. Tech - Information Technology



Applications:

- Lighting control:** Automated brightness and color adjustments.
- Smart security:** Cameras, sensors, and alarms.
- Entertainment:** TV, music, and video access 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

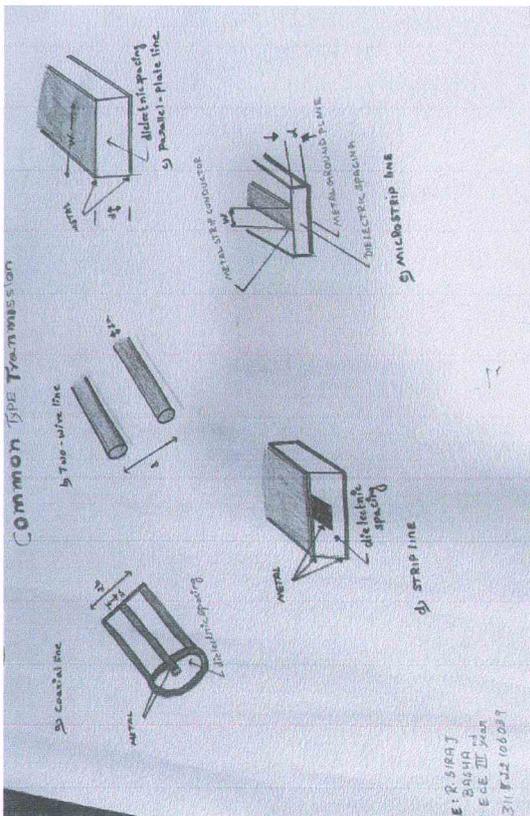
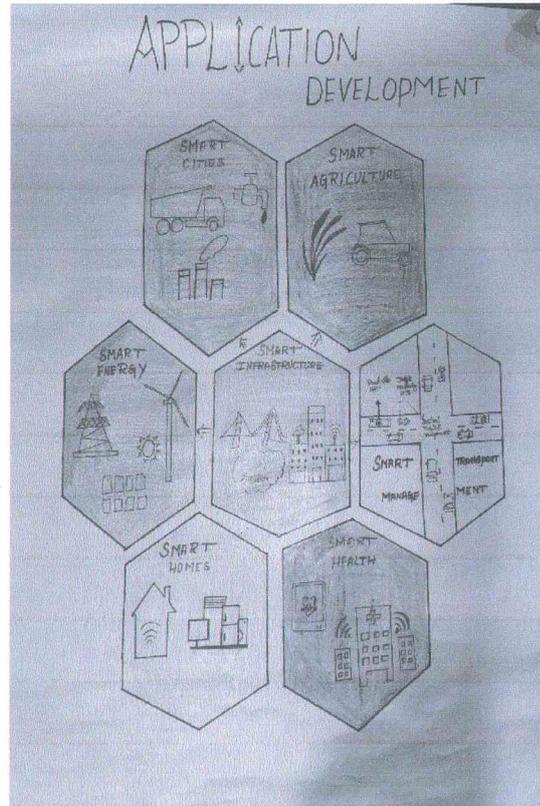
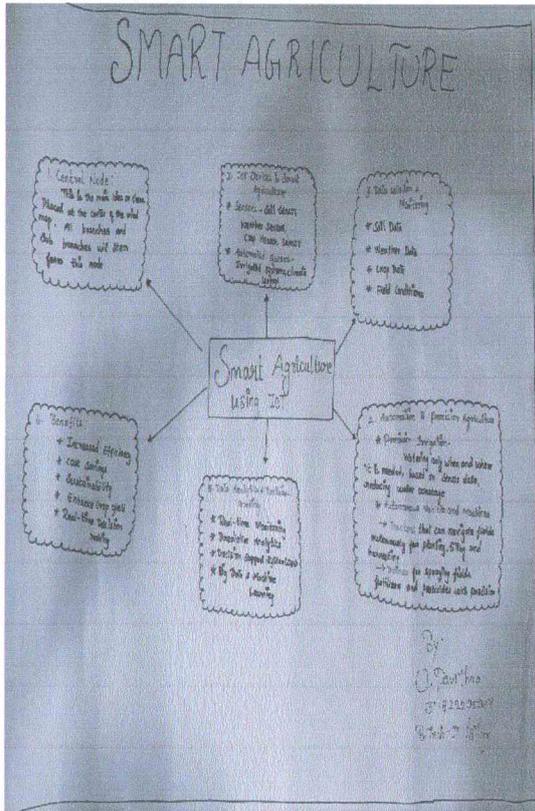
Challenges:

- Cost:** High initial investment.
- Compatibility:** Proprietary integrations and protocol understanding.
- Security Risks:** Vulnerable to hacking if not secured properly.

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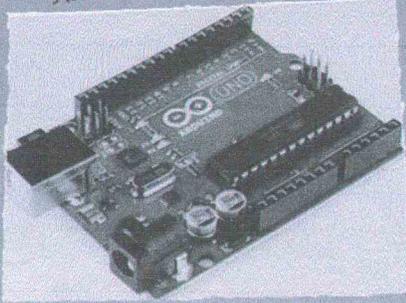
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- ## RASPBERRY PI COMPONENTS
- Raspberry Pi Board:** The main computer board. It varies models like Raspberry Pi 1, Pi 2, Pi 3, Pi 4.
 - MicroSD Card:** Acts as the main storage. Usually 16GB, 32GB, 64GB, 128GB.
 - Power Supply:** A power supply unit. Usually 5V, 2.5A. It provides power to the board.
 - Cable:** Connects the Raspberry Pi to a monitor or TV.
 - HDMI Cable:** Connects the Raspberry Pi to a monitor or TV.
 - Keyboard & Mouse:** For input. Usually connect via USB.
 - Heat Sinks:** Help to cool the Raspberry Pi. Usually connect via a fan.
 - USB Cable:** For power or data transfer.
 - Network Accessories:** If using Raspberry Pi models without built-in Wi-Fi, an Ethernet cable is not that simple to make.
 - GPIO Accessories:** If you're using the GPIO pins for projects, you might need jumper wires, breadboards, and sensors.
 - Camera Module:** Optional, but useful for projects involving photography or video recording.
 - Display:** Optional, but a touchscreen or small monitor can be useful for certain applications.

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Arduino UNO 3



Hardware and Performance:

ATmega328P Microcontroller: 8-bit AVR Processor with 512KB 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:

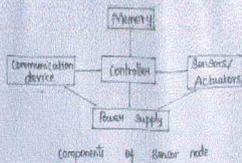
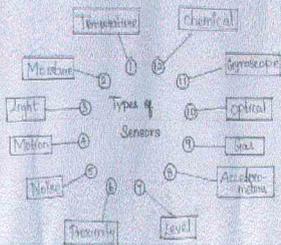
5V/3.3V Dual voltage: Flexible Power supply Options.
 2KB SRAM, 1KB EEPROM: Efficient memory management for project

EMBEDDED SYSTEMS & IOT

SENSOR & ACTUATOR

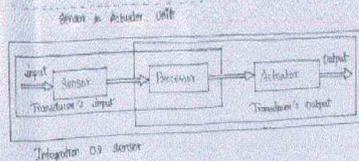
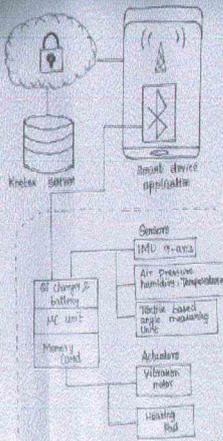
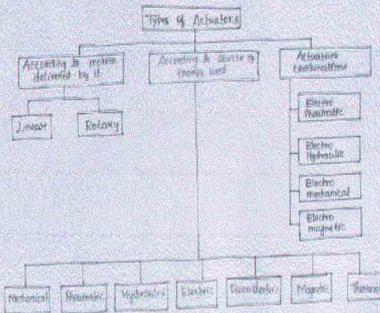
SENSOR

Sensor is input device. It convert a physical parameter to an electrical signal. It shows that detects signals in the environment & send that information to another electronic device.



Actuators

Actuators is output device. It convert electrical signal to a physical output. A component of machine that responsible for moving & control mechanism.



P.R. PooJA
 B.Tech IT (3rd)
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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.Priyadarshini	Frequency planning of Transceiver	Case Studies
4		CEC370-LPIC	Dr.I.Manju	Low voltage Low power multiplier	Quiz
5		CEC366-IP	Ms.B.Murugeswari	Image segmentation	Seminar
6		CEC367-IIOT	Mr.M.Ashok Kumar	Arduino Programming	Programming Tutorial
1	IV Yr	EC8701-AME	Mrs.S.Priyadarshini	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

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<h2>LAB RECORD</h2>		
Name of the Student :		
Register Number :		
Subject code & Name :		
Year / Sem :		
Department :		
Academic Year :		
		 PRINCIPAL Mohamed Sathak A.J. College of Engineering No. 34, Rajiv Gandhi Salai (OMR) Sipcot - IT Highway Egattur, Chennai - 603103.

Lab manual Front page



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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 / PSO_s / 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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Index							
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

Format no.: LA 12b

Sign of Lab Incharge

Rev.No: 0.0

Rev.Date: 08.11.23

Lab manual index page

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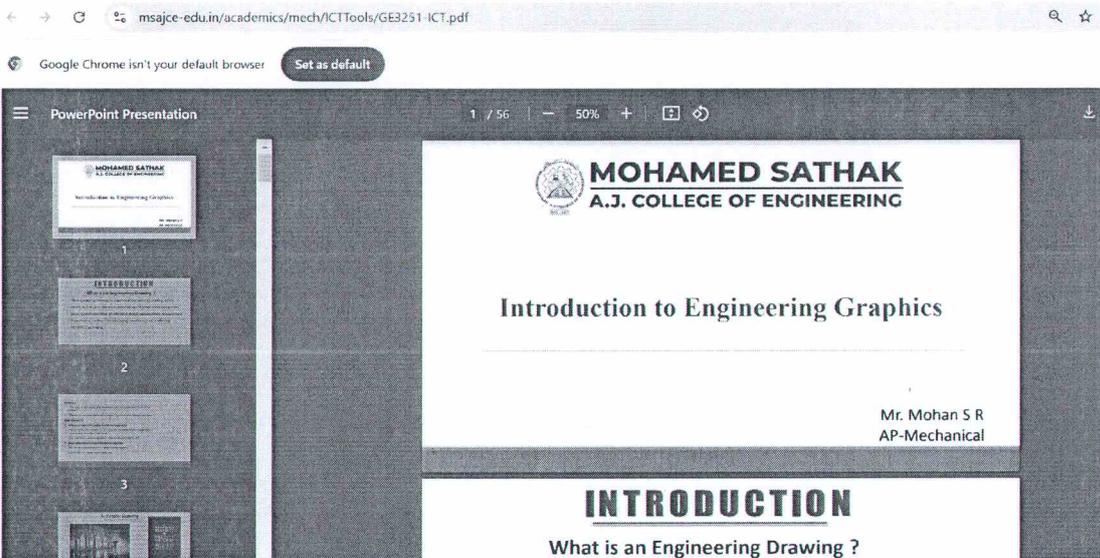
ICT Enabled Class Room with PPT



ECE Class Room



CSC Class Room



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E Resources

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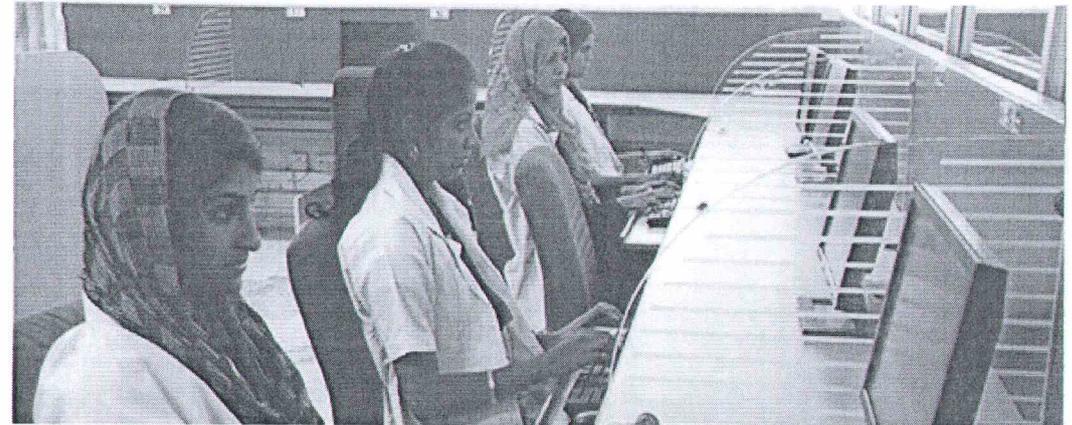
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Information Technology

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Department of Information Technology



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- Academics
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- Research
- News and Events

INNOVATION TEACHING METHODS

S.No.	Subject Code	Subject Name	ITM Tool
1	CS8091	Big Data Analytics	VIEW
2	CS8591	Computer Networks	VIEW
3	CS8592	Object Oriented Analysis and Design	VIEW
4	EC8691	Microprocessor and Microcontroller	VIEW
5	CS8494	Software Engineering	VIEW
6	IT8601	Computational Intelligence	VIEW
7	IT8602	Mobile Communication	VIEW
8	IT8501	Web Technology	VIEW
9	CD3291	Data Structures & Algorithms	VIEW
10	IT3401	Web Essentials	VIEW

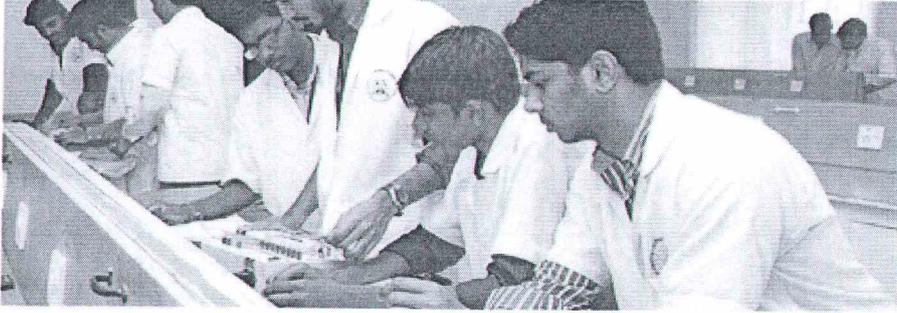
Innovation teaching methods

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Electronics and Communication Engineering

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 a Electronics and Communication Engineering

Department of Electronics and Communication Engineering



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- Research
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- Student Activities

ACADEMICS

ANNA UNIVERSITY REGULATION, SYLLABUS

- 01 - 2021 Syllabus [↑](#)
- 02 - 2017 Syllabus [↑](#)
- 03 - 2011 Open Courses [↑](#)

- 2021 Regulation**
- 2017 Regulation

2021 Regulation Course Materials

S.No.	Subject Code	Subject Name	Lesson Plan	Question Bank	Lecture Notes	ICT Tools
Semester III						
1	EC3351	Control Systems	VIEW	VIEW	VIEW	VIEW
2	EC3352	Digital Systems Design	VIEW	VIEW	VIEW	VIEW
3	EC3353	Electronic Devices and Circuits	VIEW	VIEW	VIEW	VIEW
4	EC3354	Signals and Systems	VIEW	VIEW	VIEW	VIEW
5	CS3355	C Programming & Data Structures	VIEW	VIEW	VIEW	VIEW
6	MA3355	Random Processes and Linear Algebra	VIEW	VIEW	VIEW	VIEW
Semester IV						

Department of ECE

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EC3351-LP.pdf 1 / 7 67%

1

2

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LESSON PLAN

Department of Electrical and Electronics Engineering

Name of the Subject: CONTROL SYSTEMS		Name of the Teaching Faculty: M. SATHAK	
Subject Code: EC3351		Year: Second	
Acad Year: 2021-22		Batch: 2021-23	

Course Objective

To introduce the components and their representation of control systems.
To study various methods for analyzing the time response, frequency response and stability of the systems.
To learn the various approach for the state variable analysis.

Course Outcome

CO1: Compute the transfer function of different physical systems.
CO2: Analyze the time domain response and calculate the steady state error.
CO3: Illustrate the frequency response characteristics of open loop and closed loop systems.
CO4: Analyze the stability using Routh and root locus techniques.
CO5: Illustrate the state space model of a physical system and discuss the concepts of controllable and observable systems.

Lesson Plan

Sl. No.	Topics	T. H.		Mark of Content (out of 100)	Review Period (in)	EO	PO
		Book	Refer				
UNIT I SYSTEMS COMPONENTS AND THEIR REPRESENTATION							
1	Control systems: Terminology and basic structure	11		100	1.2	CO1	PO1
2	Block diagram and Feedback control theory	11		100	1.2	CO1	PO1, PO2
3	Mechanical Transfer Function model	11		100	1.4	CO1	PO1, PO2
4	Mechanics of the Electrical control systems	11		100	1.4	CO1	PO1, PO2

EEE - Lesson Plan

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2

UNIT - I ENVIRONMENT AND BIODIVERSITY

Definition, scope and importance of environment – need for public awareness. Eco-system and Energy flow – ecological succession. Types of biodiversity: genetic, species and ecosystem diversity – values of biodiversity, India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation of biodiversity: In-situ and ex-situ.

QUESTION BANK

Part – A (10 Marks)

- 1) Define ecosystem
A group of organisms interacting among themselves and with environment.
Example: Forest ecosystem, grassland ecosystem, desert ecosystem and lake ecosystem.
Ecology is the study of ecosystems.
- 2) Define environment
Environment is defined as the sum total of all the living and non-living things around us.
- 3) State the significance and scope of environmental education.
 1. Environmental studies inform the people about their effective role in protecting the environment by demanding changes in laws and enforcement system.
 2. Environmental studies have a direct relation to the quality of life we live.
 3. Environmental studies develop a concern and respect for the environment
- 4) Distinguish between food chain and food web

Question bank



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