

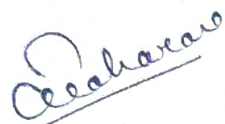
Academic Lesson Plan of Winter 2026

Department : CSE	Semester : 5TH	Name of the teaching faculty: PRIYANKA MAHARANA
Subject: INTERNET OF THINGS	No. of days/per week class allotted . 3p/week.	Semester from : 1ST July 2026
		No. of weeks:15 weeks
		Topics to be covered:
1 st week	1 st	Overview of IoT - Definition and significance of IoT
	2 nd	Historical evolution and future prospects
	3 rd	Applications across various industries
2 nd week	1 st	IoT Architecture and Components
	2 nd	Basic architecture - sensors, actuators, connectivity, and data processing
	3 rd	Hardware components: microcontrollers (e.g., Arduino, Raspberry Pi)
3 rd week	1 st	Hardware components: microcontrollers (e.g., Arduino, Raspberry Pi)
	2 nd	Software components: operating systems and middleware
	3 rd	Sensors and Actuators
4 th week	1 st	Types of sensors: temperature, humidity, motion
	2 nd	Actuators: motors, relays, and control mechanisms
	3 rd	Interfacing sensors and actuators with 10 6 microcontrollers
5 th week	1 st	Interfacing sensors and actuators with 10 6 microcontrollers
	2 nd	Data Acquisition and Processing - Analog data acquisition methods
	3 rd	Data Acquisition and Processing - digital data acquisition methods
6 th week	1 st	Signal conditioning and filtering techniques
	2 nd	Introduction to data processing and storage
	3 rd	Introduction to data processing and storage
7 th week	1 st	IoT Communication Protocols
	2 nd	Overview of protocols: MQTT, CoAP, HTTP
	3 rd	Overview of protocols: HTTP
8 th week	1 st	Wireless communication: Wi-Fi, Bluetooth, Zigbee, Lora WAN
	2 nd	Wireless communication: Wi-Fi, Bluetooth, Zigbee, Lora WAN
	3 rd	Wireless communication: Wi-Fi, Bluetooth, Zigbee, Lora WAN
9 th week	1 st	Wired communication: Ethernet, Serial communication
	2 nd	Networking Fundamentals - IP addressing and subnetting
	3 rd	Network topologies and architectures
10 th week	1 st	Introduction to IPv6 and its relevance to IoT
	2 nd	IoT Platforms
	3 rd	Overview of popular IoT platforms (e.g., AWS IoT, Google Cloud IoT)
11 th week	1 st	Overview of popular IoT platforms (e.g., AWS IoT, Google Cloud IoT)
	2 nd	Data analytics and visualization tools
	3 rd	Edge computing concepts
12 th week	1 st	Cloud Computing for IoT
	2 nd	Introduction to cloud services: IaaS, PaaS, SaaS
	3 rd	Introduction to cloud services: IaaS, PaaS, SaaS
13 th week	1 st	Integration of IoT devices with cloud platforms
	2 nd	Data storage, processing, and management in cloud
	3 rd	Security Challenges in IoT
14 th week	1 st	Common vulnerabilities and threats
	2 nd	Authentication and authorization mechanisms
	3 rd	Data encryption and secure communication
15 th week	1 st	Data privacy laws and regulations, User consent and data ownership
	2 nd	Best Practices for ensuring privacy in IoT applications
	3 rd	Revision.

COURSE OUTCOMES

CO.1	Explain the fundamentals, architecture, components, and applications of the Internet of Things (IoT) across various domains.
CO.2	Identify and interface different sensors and actuators with microcontrollers, and perform basic data acquisition and processing.
CO.3	Analyze and implement IoT communication protocols, networking concepts, and wireless/wired connectivity for IoT systems.

CO.4	Utilize IoT platforms and cloud computing services for device integration, data storage, analytics, and visualization.
CO.5	Evaluate security and privacy challenges in IoT systems and apply appropriate mechanisms for authentication, secure communication, and data protection.



Signature of Faculty



HOD, CSE