



SYNERGY SCHOOL OF ENGINEERING, DHENKANAL
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

LESSON PLAN

Discipline: Computer Science & Engineering	Semester: 5th	Name of the Teaching Faculty: Asmita Pranayani
		Subject Code: Th2
Subject: Internet of Things	No. Of Days/Week Class Allotted: 3	Semester: 5th From Date: 01/07/2026 To Date: 05/11/2026
Week	Class Day	Theory/Practical Topics
1st	1st	Introduction to Internet of Things (IoT): Definition and Significance of IoT
	2nd	Characteristics, Features and Advantages of IoT
	3rd	Historical Evolution of IoT Future Prospects and Applications of IoT
2nd	1st	IoT Applications in Healthcare, Agriculture and Smart Cities
	2nd	IoT Applications in Industry and Transportation
	3rd	Basic IoT Architecture and Components Sensors, Actuators, Connectivity and Data Processing
3rd	1st	Hardware Components: Introduction to Microcontrollers
	2nd	Arduino Architecture and Features
	3rd	Raspberry Pi Architecture and Features Software Components: Operating Systems and Middleware
4th	1st	Introduction to Sensors and Actuators
	2nd	Temperature and Humidity Sensors
	3rd	Motion, Light and Proximity Sensors Actuators: Motors, Relays and Control Mechanisms

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5th	1st	Interfacing Sensors with Microcontrollers
	2nd	Interfacing Actuators with Microcontrollers
	3rd	Analog Data Acquisition Methods Digital Data Acquisition Methods
6th	1st	Signal Conditioning Techniques
	2nd	Filtering Techniques for Sensor Data
	3rd	Introduction to Data Processing Data Storage Methods in IoT
7th	1st	IoT Communication Protocols Overview
	2nd	MQTT Protocol
	3rd	CoAP Protocol HTTP Protocol
8th	1st	Wireless Communication: Wi-Fi
	2nd	Wireless Communication: Bluetooth
	3rd	Monthly Class Test – I Question Answer Discussion
9th	1st	Wireless Communication: Zigbee
	2nd	Wireless Communication: LoRaWAN
	3rd	Wired Communication: Ethernet Serial Communication
10th	1st	Networking Fundamentals: IP Addressing
	2nd	Subnetting Concepts
	3rd	Network Topologies Network Architectures
11th	1st	Introduction to IPv6

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	2nd	Relevance of IPv6 in IoT
	3rd	Overview of IoT Platforms AWS IoT Platform
12th	1st	Google Cloud IoT Platform
	2nd	Monthly Class Test – II
	3rd	Data Analytics and Visualization Tools Edge Computing Concepts
13th	1st	Cloud Computing: IaaS, PaaS and SaaS
	2nd	Integration of IoT Devices with Cloud Platforms
	3rd	Data Storage and Processing in Cloud Data Management in Cloud Environment
14th	1st	Security Challenges in IoT
	2nd	Common Vulnerabilities and Threats
	3rd	Authentication and Authorization Mechanisms Data Encryption and Secure Communication
15th	1st	Privacy Laws and Regulations in IoT
	2nd	User Consent and Data Ownership
	3rd	Best Practices for Security and Privacy in IoT Quiz Test and Question Answer Discussion

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