Discipline: CSE	Semester: 6th	**Name of the faculty:** Biswaranjan Swain
Subject: Internet of Things (Th2)	No. of Days/Week: 5	**Start Date: 22/12/2025 End Date: 18/04/2026**

Week	Class Day	Theory Topics
1st	1st	**1. Introduction to Internet of Things** Introduction , Characteristics of IoT
	2nd	Applications of IoT , IoT Categories, Enablers and connectivity layers
	3rd	Baseline Technologies, Sensor
	4th	Actuator
	5th	IoT components and implementation
2nd	1st	Challenges for IoT
	2nd	**2. IOT Networking:** Terminologies , Gateway Prefix allotment
	3rd	Impact of mobility on Addressing `Multihoming
	4th	Deviation from regular Web
	5th	IoT identification and Data protocols IPv4
3rd	1st	IPv4 complete
	2nd	IPv6
	3rd	XMPP, MQTT
	4th	**3. Connectivity Technologies :** Introduction
	5th	IEEE 802.15.4
4th	1st	ZigBee
	2nd	6LoWPAN
	3rd	RFID , HART & Wireless HART
	4th	NFC, Bluetooth
	5th	Z wave, ISA100.11.A
5th	1st	**4.Wireless Sensor Networks:** Introduction , Components of a sensor node
	2nd	Modes of Detection, Challenges in WSN
	3rd	Sensor web, Cooperation in Wireless Ad Hoc and Sensor Networks
	4th	Self-Management of Wireless Sensor Networks, Social sensing WSN
	5th	Applications of WSNs, Wireless Multimedia Sensor Networks
6th	1st	Wireless Nanosensor Networks , Underwater acoustic sensor networks, WSN Coverage , Stationary WSN, Mobile WSN
	2nd	**5. M2M Communication:** M2M Communication
	3rd	M2M Ecosystem

	4th	M2M service Platform
	5th	Interoperability
7th	1st	Types of Interoperability
	2nd	**6. Programming with Arduino:** Intoroduction
	3rd	Features of Arduino
	4th	Components of Arduino Board
	5th	Arduino IDE
8th	1st	Case Studies
	2nd	**7. Programming with Raspberry Pi :** Introduction
	3rd	Architecture, Pin configuration
	4th	Case studies
	5th	Implementation of IoT with Raspberry Pi
9th	1st	**8. Software defined Networking :** Limitation of current network
	2nd	Origin of SDN, SDN Architecture
	3rd	Rule Placement, Open flow Protocol
	4th	Controller placement
	5th	Security in SDN
10th	1st	Integrating SDN in IoT
	2nd	**9. Smart Homes:** Origin and example of Smart Home Technologies
	3rd	Smart Home Implementation
	4th	Home Area Networks(HAN)
	5th	Smart Home benefits and issues
11th	1st	**10. Smart Cities:** Characteristics of Smart Cities
	2nd	Smart city Frameworks
	3rd	Challenges in Smart cities
	4th	Data Fusion
	5th	Smart Parking
12th	1st	Energy Management in Smart cities
	2nd	**11. Industrial IoT :** IIoT requirements
	3rd	Design considerations
	4th	Applications of IIoT
	5th	Benefits of IIoT , Challenges of IIoT