

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Discipline: <u>Diploma in CSE Engg</u>		Name of the Teaching Faculty <u>Manas Ranjan Mohanty</u>	
Semester: <u>6th</u>		Semester from Dt. <u>14.2.23</u> to Dt. <u>22.5.23</u>	
Subject: <u>IOT</u>		No. of Weeks: <u>15</u>	
Class Allotted:		Theory / Practical Topics	
Week	Class Day		
1st	1st	Ch-1: Introduction to Internet of Things	
		1.1 → introduction	
	2nd	1.2 → characteristics of IOT	
	3rd	1.3 → Application of IOT	
	4th, 5th	1.4 → IOT categories	
2nd		1.5 → IOT Enablers and connectivity layers	
	1st	1.6 → Base line Technologies	
		→ sensor, actuator	
	2nd	→ IOT components and implementation	
	3rd	→ challenges for IOT	
3rd	4th	→ Ch-2: IOT Networking	
	5th	→ Terminologies	
		2.2 → Gateway Protocol allment	
	1st	2.3 → Impact of mobility on addressing	
	2nd	2.4 → Multihoming	
4th	3rd	2.5 → Deviation from regular web	
	4th	2.6 → IOT Identification and data protocols	
	5th		
	1st	Ch-3: connectivity technologies	
	2nd	3.1 → Introduction	
5th	3rd	3.2 → IEEE 802.15.4	
	4th, 5th	3.3 → ZigBee, 6LoWPAN	
	1st	3.4 → RFID, HART and wireless HART	
	2nd	3.5 → NFC, Bluetooth, Zwave, FSA/100	

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LESSON PROGRESS

Date	Topic to be covered as per Lesson Plan	Topic actually covered	Point / Contents Discussed (in brief)	Sign. of Teacher
14.2.23	Introduction to IOT	Internet of Things introduction	Smart home, smart city, sensor	Manas
15.2.23	Characteristics of Internet of Things	characteristics of IOT	connectivity, scalability, intelligence, identity	Manas
20.2.23	Application of IOT	Application of IOT	Agriculture, health care, military	Manas
21.2.23	IOT categories	IOT categories	Industrial IOT, robot	Manas
23.2.23	IOT categories	IOT categories completed	Process maker, digital control system	Manas
25.2.23	IOT enablers	IOT enablers	Sensor, actuator	Manas
27.2.23	Connectivity layers	Connectivity layers	Application layer, network layer	Manas
28.2.23	Baseline Technologies	Baseline technologies	static, dynamic sensor	Manas

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Week	Class Day	Theory / Practical Topics
5th	3rd	→ CH4: wireless sensor Networks
	4th	4.1 → Introduction
	5th	4.2 → components of a sensor network
	1st	4.3 → Modes of Detection
	2nd	4.4 → challenges in WSN
6th	3rd	4.5 → Sensor web
	4th	4.6 → Co-operation and behaviours of Nodes in WSN
	5th	4.7 → self Management of WSN
	1st	4.8 → Social sensing WSN
	2nd	4.9 → Application of WSN
7th	3rd	4.10 → wireless multimedia sensor network
	4th	4.11 → wireless Nanosensor Networks
	5th	4.12 → underwater acoustic sensor networks
	1st	4.13 → WSN coverage
	2nd	4.14 → stationary WSN, mobile WSN
8th	3rd	CH5 → M2M communication
	4th	5.1 → M2M communication
	5th	5.2 → M2M Ecosystem
	1st	5.3 → M2M service platform
	2nd	5.4 → Interoperability
9th	3rd	CH6 → programming with Arduino
	4th	6.1 → Features of Arduino
	5th	6.2 → components of Arduino board
	1st	6.3 → Arduino IDE
	2nd	6.4 → case studies

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Week	Class Day	Theory / Practical Topics
10th	1st	Ch-7 → programming with Raspberry pi
		7.1 → architecture and pin configurations
	2nd	7.2 → case studies
	3rd	7.3 → Implementation of IoT with Raspberry pi
	4th	→ Ch-8 → Software defined networking
	5th	8.1 → Limitation of current Networks
11th	1st	8.2 → origin of SDN
	2nd	8.3 → SDN Architecture
	3rd	8.4 → Rule placement open flow protocol
	4th, 5th	8.5 → controller placement 8.6 → security in SDN, integrating SDN in IoT
12th	1st	Ch-9 → smart homes
	2nd	9.1 → origin and exp's smart home technologies 9.2 → smart home implementation
	3rd	9.3 → Home Area Network (HAN)
	4th, 5th	9.4 → Smart home benefits and issues
13th	1st	Ch-10 → smart cities
	2nd	10.1 → characteristics of smart cities
	3rd	10.2 → Smart City Frameworks
	4th	10.3 → challenges in smart city
	5th	10.4 → Data Fusion
14th	1st	10.5 → Smart Parking
	2nd	10.6 → Energy management in smart cities

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Week	Class Day	Theory / Practical Topics
14th	3rd	CH-11 → Industrial IOT
	4th	11.1 → IOT requirements
	5th	11.2 → Design considerations
15th	1st	11.3 → Applications of IOT
	2nd	11.4 → Benefits of IOT
	3rd	11.5 → Challenges of IOT