

UTKALMANI GOPABANDHU INSTITUTE OF TECHNOLOGY

JAILROAD, ROURKELA-769004

Department of Electronics and Telecommunication Engineering

LESSON PLAN

Subject Code : Th4 (ii)	Total No. of Hour given in Syllabus : 60
Subject Name: INTERNET OF THINGS (IoT)	Tutorial : 0
Faculty: Bhimsen Tudu	Lecture : 4
Degree/Branch: Diploma/ETC	Practical : 0
Year/Sem/Sec : VI	Grand Total : 4
Academic Year: 2021-2022	

S. No.	Topic	No. of Hours	Reference Books	Page no
UNIT I – INTRODUCTION TO IoT		8		
1	What is IoT, Architectural Overview	1		
2	Design principles and needed capabilities, IoT Applications	1		
3	Sensing, Actuation, Basics of Networking, M2M and IoT Technology	2		
4	Fundamentals- Devices and gateways	1		
5	Data management, Business processes in IoT	1		
6	Everything as a Service(XaaS)	1		
7	Role of Cloud in IoT, Security aspects in IoT.	1		
UNIT II - ELEMENTS OF IoT		10		
8	Hardware Components-Computing (Arduino, Raspberry Pi)	3		
9	Communication, Sensing, Actuation, I/O interfaces	2		
10	Software Components- Programming API's (using Python/Node.js/Arduino) for Communication	3		
11	Protocols-MQTT, ZigBee, Bluetooth, CoAP, UDP, TCP.	2		
UNIT III - IoT APPLICATION DEVELOPMENT		14		
12	Solution framework for IoT applications-	3		

13	Implementation of Device integration,	3		
14	Data acquisition and integration	3		
15	Device data storage- Unstructured data storage on Cloud/Local Server	3		
16	Authentication, Authorization of Devices	2		
UNIT IV- SMART TECHNOLOGY		10		
17	Understanding the IoT Big Picture	2		
18	Building the Internet of Things	2		
19	Understanding Smart Devices, Building Blocks	2		
20	Understanding Network Connections	1		
21	Understanding IP Addresses	1		
22	Understanding cellular Network & Mesh Network	2		
UNIT V - SMART TVS: VIEWING IN A CONNECTED WORLD		8		
23	What is Smart TV & its use	1		
24	What is inside Smart TV	2		
25	What a Smart TV does	1		
26	Smart TV Operating Systems	2		
27	What is Smart TV Set-Top Devices	1		
28	Integrating Smart TV in to IOT	1		
UNIT VI - IoT CASE STUDIES		10		
29	IoT case studies (any one)	8		
	(a) Smart Home			
	(b) Smart Car			
	(c) Smart Cities			
	(d) Smart Drones			
30	Industrial automation	2		

Prepared By

Approved By