

**DEPARTMENT OF INFORMATION TECHNOLOGY & COMPUTER
ENGINEERING**



LESSON PLAN

SUBJECT: INTERNET OF THINGS (IOT)

BRANCH: 6TH SEM, IT

FACULTY NAME: MR. SABYASACHI SARANGI

Vision:

To focus on development of skilled and confident personalities of today and tomorrow by using cutting edge technology in the department of Information Technology to accept need based challenges with a sense of social responsibilities.

Missions:

- **M1:** To impart quality education by implementing state-of- the- art teaching-learning methods to enrich the academic competency, credibility and integrity of the students.
- **M2:** To implement the educational program in our department from fundamental engineering to recent technology as per emerging trends in the field of Information Technology.
- **M3:** To facilitate a conducive ambience and infrastructure to develop professional skills and nurture innovation in students.
- **M4:** To inculcate sensitivity towards society, respect for environment and promote high standards of ethics.

Program Educational Objectives (PEOs):

- **PEO1:** Inculcate a conviction to believe in self, impart professional and ethical attitude, nurture to be an effective team member, infuse leadership qualities, build proficiency in soft-skills, and the ability to relate Engineering with social issues.
- **PEO2:** Adapt state-of-the-art Information Technology broad-based techniques to work in multi-disciplinary work environments.
- **PEO3:** Solve real world problems individually and as a team member with managerial and leadership skills for career in IT industry and also starting up own firms.
- **PEO4:** Undertake and excel in higher studies and Research & Development in IT related fields and management.

Program Specific Outcomes (PSOs):

- **PSO1:** Have the ability to analyze problem, design algorithm, identify and define the computing requirements appropriate to its solution and implement the same.
- **PSO2:** Apply the acquired knowledge and adapt modern tools to provide the innovative solutions in Networking, cloud computing and Cyber Security applications.
- **PSO3:** Maintain information systems using modern information and communication technologies which use the concept & tools of databases, data mining and information coding and deliver technological solutions for the end users.
- **PSO4:** Design; implement software solutions for various automation applications by applying standard practices for software project development using hands-on programming skills for analysis, design and creation of software solutions.

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Lesson Plan

Name	SABYASACHI SARANGI	Total Hrs planned:60 Total Hrs per week: 04
Designation	PTGF	Pre requisite :
Subject: Code/Name	Th.2	Internet of Things
Semester/Programme/ Department	6 th Sem /Session (2025-2026)/ Diploma/ Information Technology	
Course Objective	Know what IoT is Know Physical and Logical design of IoT• Understand the other Technology associated with IoT• Know the areas of applications of IoT• Understand the concept of IIoT• Know the working with Arduino and Raspberry Pi•	

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Sl.No	Detail Description of Topics/Subtopics	Mode of Lecture
1	CHAPTER-1 Introduction to Internet of Things	Chalk & talk
2	Characteristics of IoT	Chalk & talk
3	Applications of IoT	Chalk & talk
4	IoT Categories	PPT
5	IoT Enablers and connectivity layers	PPT
6	Baseline Technologies , oT components and implementation	NPTEL VIDEO
7	Revision of Chapter 1	Questionnaires & Class Test
8	Chapter2: IOT Networking	Chalk & talk
9	Terminologies	NPTEL VIDEO
10	Gateway Prefix allotment	PPT
11	Impact of mobility on Addressing	NPTEL VIDEO
12	Multihoming , Deviation from regular Web	Chalk & talk
13	IoT identification and Data protocols	NPTEL VIDEO
14	Revision of Chapter 2	Questionnaires & Class Test
15	Chapter 3: Connectivity Technologies	Chalk & talk
16	Introduction	Chalk & talk
17	IEEE 802.15.4	PPT
18	ZigBee, 6LoWPAN	Chalk & talk
19	RFID	Chalk & talk
20	HART and wireless HART	Chalk & talk
21	NFC	NPTEL VIDEO
22	Bluetooth	Chalk & talk
23	Z wave	NPTEL VIDEO
24	ISA100.11.A	NPTEL VIDEO
25	Revision of Chapter 3	Questionnaires & Class Test
26	Chapter 4: Wireless Sensor Networks	Chalk & talk
27	Introduction	PPT
28	Components of a sensor node	Chalk & talk
29	Modes of Detectio	Chalk & talk
30	Challenges in WSN	NPTEL VIDEO
31	Sensor Web	NPTEL VIDEO
32	Revision of Chapter 4	Questionnaires & Class Test

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33	Chapter 5: M2M Communication	Chalk & talk
34	M2M communication	PPT
35	M2M Ecosystem	Chalk & talk
36	M2M service Platform	NPTEL VIDEO
37	Interoperability	NPTEL VIDEO
38	Revision of Chapter 5	Questionnaires & Class Test
39	Chapter 6 : . Programming with Arduino	Chalk & talk
40	Introduction	Chalk & talk
41	Features of Arduino	NPTEL VIDEO
42	Components of Arduino Board	Chalk & talk
43	Arduino IDE	PPT
44	Case Studies	Chalk & talk
45	Revision of Chapter 6	Questionnaires & Class Test
46	Chapter 7 : Programming with Raspberry Pi	Chalk & talk
47	Architecture and Pin Configuration	Chalk & talk
48	Case studies	NPTEL VIDEO
49	Implementation of IoT with Raspberry Pi	PPT
50	Revision of Chapter 7	Questionnaires & Class Test
51	Chapter 8 : Software defined Networking	Chalk & talk
52	Limitation of current network	Chalk & talk
53	Origin of SDN	Chalk & talk
54	SDN Architecture	Chalk & talk
55	Rule Placement, Open flow Protocol	Chalk & talk
56	Security in SDN ,Integrating SDN in IoT	Chalk & talk
57	Revision of Chapter 8	Questionnaires & Class Test
58	Chapter 9: Smart Homes	Chalk & talk
59	Origin and example of Smart Home Technologies	Chalk & talk
60	Smart Home Implementation	Chalk & talk
61	Home Area Networks(HAN	Chalk & talk
62	Smart Home benefits and issues	Chalk & talk
65	Revision of Chapter 9	Questionnaires & Class Test
66	Chapter 10: Smart Cities	Chalk & talk
67	Characteristics of Smart Cities	Chalk & talk
68	Smart city Frameworks	NPTEL VIDEO
69	Challenges in Smart cities,	NPTEL VIDEO

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70	Energy Management in Smart cities	Chalk & talk
71	Revision of Chapter10	

Books Recommended :

- 01 Jeeva Jose Internet of Things Khanna Books

02 Arsheep Bhaga, Vijay Madiseti Internet of Things A Hands-on approach University press

Sabyasachi Sarangi
SUBJECT FACULTY

pmahua
H.O.D

ACADEMIC COORDINATOR

PRINCIPAL