

PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: - Internet of Things
Year: - 4th

Subject Code: - ECP-22A
Semester: - 8th

Lecture No	Unit No	Topic	References
L 1	UNIT-I	Introduction to IoT	Internet of Things by Arshdeep Bahga(Universities Press)
L 2		Defining IoT	
L 3		Characteristics of IoT, Functional blocks of IoT	
L 4		Physical and logical design of IoT	
L 5		Smart cities and IoT revolution	
L 6		Difference between IoT and M2M	
L 7		M2M and peer networking concepts	
L 8		Ipv4 and IPV6	
L 9		Software Defined Networks SDN	
L 10	UNIT-II	Developing IoTs: IoT design methodology	Internet of Things by Arshdeep Bahga(Universities Press)
L 11		Case study on IoT system for weather monitoring	
L 12		IoT system Management	
L 15	UNIT-II	Developing IoT applications through embedded system platform: Introduction to sensors	Internet of Things by Srinivasa K.G. (Publisher-CENGAGE)
L16		IoT physical devices and endpoints, Raspberry pi	
L17		Raspberry pi interfaces	
L 18		Arduino	
L 19		Arduino interfaces	
L 20		Revisions	
L 21	UNIT-III	Protocols for IoT	Internet of Things by Arshdeep Bahga(Universities Press)
L 22		Messaging protocols, Transport protocols	
L 23		Ipv4, Ipv6	
L 24		URI	
L 25		Cloud for IoT: IoT with cloud, challenges	
L 26		Introduction to fog computing	
L 27		Cloud computing	

L 28		Challenges in IoT: Design challenges, Development challenges	
L 29		Security and legal considerations	
L 30	UNIT- IV	Logic design using Python: Introduction to python	Introduction to Computing & Problem Solving with Python by Jeeva Jose
L 31		Data types, data structures	
L 32		Control flow, functions	
L 33		Modules, file handling and classes	
L 34		Implementing IoT concepts with python	
L 35		Applications of IoT	
L 36		Connected cars IoT Transportation	
L37		Smart Grid using IoT	
L38		Healthcare sectors using IoT	
L39		Revision	

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Text Books:

A Bahaga, V. Madiseti, “Internet of Things- Hands on approach”, University press, 2014.

References:

A Bahaga, V. Madiseti, “Internet of Things- Hands on approach”, University press, 2014.

S.K.Vasudevan, A.S.Nagarajan, “Internet of Things”, Wiley, 2019.

CunoPfister, “Getting started with Internet of Things”, Maker Media, 1st edition, 2011. Samuel Greenguard, “Internet of things”, MIT Press, 2015.

Web resources:

<http://www.datamation.com/open-source/35-open-source-tools-for-the-internet-of-things-1.html>

<https://developer.mbed.org/handbook/AnalogIn>

http://www.libelium.com/50_sensor_applications

M2MLabs Mainspring <http://www.m2mlabs.com/framework> Node-RED <http://nodered.org/>