

Lesson Plan

Name of the Faculty : Er. Manpreet Kaur (Theory/Practical)
Discipline : Electronics and Communication Engineering
Semester : 8th
Subject : **INTERNET OF THINGS (ECP-22A)**
INTERNET OF THINGS LAB (ECP-22LA)
Lesson Plan Duration : From Jan, 2026 to May, 2026
Work Load (Lecture / Practical) per week (in hours): Lectures-03, Practical-03

Week	Theory		Practical	
	Lecture Day	Topic (including assignment / test)	Practical Day	Topic
1 st	1 st	Introduction to IoT: Defining IoT, Characteristics of IoT	1 st	Familiarization with concept of IoT, Arduino/Raspberry Pi and perform necessary software installation
	2 nd	Functional blocks of IoT		
	3 rd	Physical and logical design of IoT		
2 nd	4 th	Smart cities and IoT revolution,	2 nd	To interface LED/ Buzzer using relay with Arduino/Raspberry Pi and write a program to turn ON/OFFLED/Buzzer.
	5 th	Difference between IoT and M2M,		
	6 th	M2M and peer networking		
3 rd	7 th	concepts Ipv4 and IPV6,	3 rd	To interface Push button/Digital sensor (IR/LDR) with Arduino/Raspberry Pi and write a program toturn ON LED when push button is pressed.
	8 th	Software Defined Networks SDN		
	9 th	Application of IoT		
4 th	10 th	Developing IoT applications through embedded system platform	4 th	To interface Analog sensors (Temperature/ Humidity/ Ultrasonic) with Arduino/Raspberry Pi and write aprogram to display sensors data on the computer screen
	11 th	Introduction to sensors		
	12 th	IoT physical devicesand end points		
5 th	13 th	Raspberry pi	5 th	First Internal Viva
	14 th	Raspberry pi interfaces		

	15 th	Arduino		
6 th	16 th	arduino interfaces	6 th	To interface OLED with Arduino/Raspberry Pi and write a program to print sensor data on it.
	17 th	IoT design methodology		
	18 th	case study on IoT system for weather monitoring.		
7 th	19 th	IoT systemManagement,	7 th	To interface sensor with Arduino/Raspberry Pi and write a program to turn ON/OFF Relay when sensordata is detected
	20 th	Application of Sensors		
	21 st	messaging protocols,		
8 th	22 nd	Ipv4, Ipv6, URI, Cloud for IoT:	8 th	Interface motor using relay with Arduino/Raspberry Pi and write a program to turn ON/OFF motorwhen push button is pressed.
	23 rd	introduction to fog computing.		
	24 th	Challenges in IoT: Design challenges,		
9 th	25 th	development challenges, security and legal considerations	9 th	Second Internal Viva
	26 th	cloud computing		
	27 th	IoT with cloud,challenges		
10 th	28 th	transport protocols,	10 th	To interface Bluetooth with Arduino/Raspberry Pi and write a program to send sensor data on smart phone using Bluetooth.
	29 th	Logic design using Python:		
	30 th	Introduction to python,		
11 th	31 st	data types, data structures,	11 th	To interface Bluetooth with Arduino/Raspberry Pi and write a program to turn LED ON/OFF when a 1/0is received from smartphone using Bluetooth.
	32 nd	control flow, functions, modules		
	33 rd	file handling and classes.,		
12 th	34 th	implementing IotT concepts with python,	12 th	Write a program to upload sensor data on cloud.
	35 th	Applications of IoT		

	36 th	Connected cars IoT Transportation,		
13 th	37 th	Smart Grid and Healthcare sectors using IoT,	13 th	Write a program to retrieve sensor data from cloud.

Er. Manpreet kaur

Assistant Professor

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