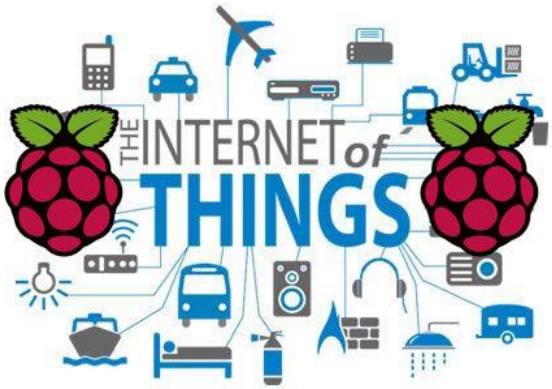
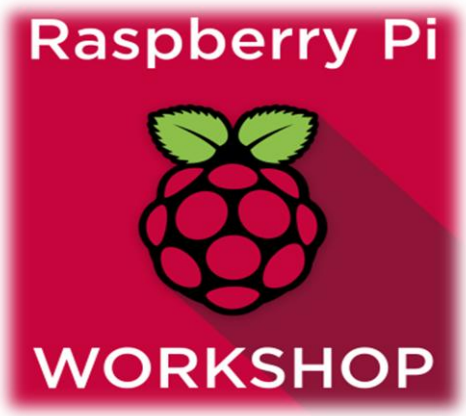
Project Development



IOT



Raspberry Pi

Python

Arduino

Session 1 -
PCB Design using Eagle

Sr. No.	Topic
1.	**PCB Design Using CAD tool (PCB Design Software)**
	a) Types of PCB b) PCB Design Rules c) Introduction to PCB Design Software e) Practice of the software by designing of the PCB for various circuits d) How to print Soft design on actual PCB e) Etching of PCB f) Drilling of PCB
2.	**Regulated Power Supply** i) Circuit Design
	Lunch Break
	ii) PCB design iii)Etching of PCB iv) Drilling of PCB
3	**Introduction to soldering** a) What is soldering Iron b) What is soldering c) Soldering Techniques e) Soldering practice

Session 2 -
Arduino & its Programming

Sr. No.	Topic
1.	Introduction to Arduino board
	Installation of Arduino Software
2.	Pin mapping of Arduino with ATMEGA 328/ 8
3.	Software Basics
4.	Intefacing of LED with board. Writing a program to on and off the LED with interval of 1 second
5.	Embedded C programing basics
6.	If loop, For loop, While loop, Switch-case statement syntax
7.	Interfacing of 7 segment displpay and its programming.
8.	Interfacing of Buzzer to genrate different audio tones.
9.	Intefacing of switch and LED to Board

Internet Of Things(IOT) and Raspberry Pi

Sr. No.	Content
1	Introduction to Raspberry Pi
2.	Istallation of Raspberry Pi and Operation system Raspbian
3.	Introduction to Linux operating system and some basic functions
4.	Introduction to Python and Some basic programs
5.	GPIO structure of Raspberry Pi
6.	Interfasing of LED and programming it for blinking using python language
7.	Interfasing of switch programing it for different purposes Like Switching LED, Taking Photograph, Incriment Display etc

Session 4- Python Programming

Sr. No.	Content
1	Introduction History Features ,Setting up path ,Working with Python ,Basic Syntax ,Variable and Data Types ,Operator
2.	Conditional Statements, If ,If- else ,Nested if-else
3.	Looping, For ,While , Nested loops
4.	String Manipulation, Accessing Strings , Basic Operations , String slices , Function and Methods
5.	Lists, Introduction ,Accessing list ,Operations , Working with lists ,Function and Methods
6.	Dictionaries, Introduction ,Accessing values in dictionaries, Working with dictionaries ,Properties ,Functions
7.	Interfasing of switch programing it for different purposes Like Switching LED, Taking Photograph, Incriment Display etc