

Raspberry Pi Course Content (45 Days)

1. Introduction to Raspberry Pi

- Different Models of Raspberry Pi
- Why Raspberry Pi
- Peripherals of Raspberry Pi.
- Applications of Raspberry Pi.
- Future of Micro Computing.

2. Preparing Your Raspberry Pi for First Use

- Different Operating Systems for Raspberry pi
- Getting Started With NOOBS
- Getting things ready for first use.
- NOOBS OS inside out.
- Booting for the First time.

3. Setting Up for a Perfect Pi Experience

- Operation Procedures.
- Do's and Don'ts.
- Updating Pi to Latest softwares.
- Setting various Options and Personalizing.
- First introduction to the LINUX terminal.
- Introduction to the Open Source Software Library.
- The Linux Files Organization Structure.
- NOOBS Configuration Files.
- Connecting to the Network and Troubleshooting.

4. Introduction to LINUX Environment

- Operation Procedures.
- LINUX Shell.
- SHELL Scripting.
- Introduction to various Functions

5. Getting Familiar with the GPIO Pins of your Pi -1

- Pin numbering Formats
- The Voltage hazard Information.
- The LED Interfacing
- The First Button Interface with Raspberry Pi
- General information on other pins and their functionality.
- UART example.

6. Using Raspberry Pi for Applications.

- Web Browser Experience.
- Mp3 Player.
- Video Player
- Online Video Streaming.

7. Setting Up Pi to be Accessed Remotely.

- Remote Computing Basics
- Connecting Raspberry Pi to a Remote Access Client.
- Using Raspberry Pi Remotely.

8. Basics of Python Programming.

- Making a Hello World Python Script.
- For Loop
- While Loop
- IF-Else structure
- Using inbuilt functions
- Concept of oops
- User defined functions.

8. Advanced Python

- Reading and writing from file.
- GUI Design with python
- Button
- Text field
- Progress bar
- Socket access

- Making standalone app

LIVE Projects Covered

- LED Running Lights.
- Buttons Interfacing
- Buzzer Interfacing
- 7-Segment display Interfacing
- RGB LED Interfacing.
- Motor Interfacing.
- UART interfacing.
- TTL Level converter interfacing for Other Controller's Interface.
- Suggested Projects
- Problem Solving
- Troubleshooting

Raspberry Pi KIT

- Reading Material
- Two Raspberry Pi 2(and above) compatible OS.
- Software for different Applications
- Raspberry Pi Motor Driver Board.
- Other Accessories :
 - 5 x LED
 - 2 x Push Button Switch
 - 1 x Small Breadboard
 - 10 x Connecting Wires