

Raspberry pi Training Session wise Breakup

		Topics	Theory	Lab	Total No of hours
Day 1	Introduction to Rpi	Board	1Hrs		1Hrs
		Architecture,Hardware interfaces			
	Introduction to Linux	Explore the Linux OS	2Hr	2Hrs	4Hrs
		Kernel,Shell			
		Linux commands			
		Shell script			
	Software for RPi	Raspbian OS (Linux Desktop)	1Hr		1Hrs
		Preparing the SD card			
		Install the operating system			

Day 2	Introduction to Python Language	Python Basic Syntax	1Hrs		1Hrs
		Python Variable Types			
	Basics of Python	Python Basic Operators			
		Python Decision Making			
	Python Loops	while loop,for loop,nested loops	1Hr	2Hrs	3Hrs
		Loop Control Statements			
	Python Language	Python Numbers,Strings		2Hrs	2Hr
		Python Lists			
		Python Tuples,Python Dictionary			
		Python Functions,Function Arguments		1Hr	1Hrs

Day3	Introduction to OpenCV-Python	Display and Loading Image,Changing Colorspaces	1Hrs	2Hr	3Hrs
		Reading and writing images,Accessing image elements,			
		Geometric Transformations of Images,Image Thresholding,Smoothing Images			
		Morphological Transformations			
	Core Operations	histogram equalization ,Gradients	1Hr	2Hr	3Hrs
		Contours in OpenCV			
Detection of Coloured object, Edge Detection					
Day 4	Feature Detection and Description	Understanding Features	1Hrs	2Hrs	3Hrs
		Different types of Feature Detection Methods			
	Introduction to GPIO	GPIO Basics,LED Interfacing,Switch Interfacing	1Hrs	2Hrs	3Hrs
		UART			
		DC Motor Interfacing			
	Arduino	Introduction,Interfacing with Raspberry			

Day 5	Case Studies	Eye tracking	2Hrs	4Hrs	6Hrs
		Surveillance Robot			