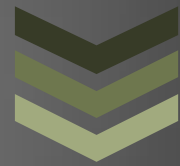


PINE TRAINING ACADEMY



Course Module

YOU'RE CAREER, OUR PASSION

Summer Training Program on Embedded System.

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4/26/2016



Pine Training Academy

Summer Training Program on Embedded System.

Module	Detailed Syllabus	Duration
Module-1 Introduction.	<ul style="list-style-type: none"> • Introduction to Pine Training Academy. • Introduction of Embedded System. • Philosophy of Embedded System. • Embedded System Design & Development Process. 	Week 1-Month 1
Module-2 Embedded Hardware.	<ol style="list-style-type: none"> 1. Analog Introduction wrt to Embedded System. 2. Digital Introduction wrt to Embedded System. 3. Hardware Design (prototype design concept) 4. Assembly Language for 8051 and PIC MCU (8 Bit). 	Week 1 and 2-Month 1
Module-3 Embedded Programing Interface	<ol style="list-style-type: none"> 5. Basic of C Language. 6. Embedded C (Processor C). 7. Implementation on hardware kit using both C and Assembly Language. 8. Difference between 8/16/32/ARM Architecture and its working. 9. Basic Interface 1-LCD, Keyboard, Sensor, Relay. 	Week 3 and 4-Month 1
Module-4 Project	<ol style="list-style-type: none"> 10. Industry Standard Project - Basic Study of working on LIVE Project i.e. Project Understanding and Its Requirement. <ul style="list-style-type: none"> • Common Rail Rejection system testing • GSM based automotive security system • GPRS based cluster energy meter • Single phase energy meter • Three phase energy meter • Multi tariff energy meter • IPV4/IPV6 based smart home • Smart Drive • Digital Direct Control • Bluetooth based client server application • Smart City automation solution for street light and water management. • Smart Agricultural system 	Week 1,2,3,4 Month 2

**Module -5
Advanced
Embedded
System
Optional**

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11. Basic Interface 2- Memory card, ADC/DAC, Motor, RTC, EEPROM.
12. Introduction of 16 bit/32bit (ARM) and its basic architecture and difference.
13. Advanced Interface – Ethernet, USB, RTOS, SPI Driver, UART, Serial/Parallel Port Driver and CAN/LIN.
14. Real Time Application/Projects based on TI or Renesas Platform depend on the availability of vendor resources.
15. Linux Kernel and Shell Programming.
16. Wireless Interface – 2.4 GHz (RF) ISM band using ZIGBEE Protocol Stack, IOT (Internet on Things), and IPV6 base stack, Linux Device Driver for I2C Driver