PINE TRAINING ACADEMY

Course Module

YOUR CAREER, OUR PASSION

6/10 Month Certified Course in Embedded System Design

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Advanced Embedded System Design		
Module	**Detailed Syllabus**	**Tools Required**
Module – 1 Introduction to Embedded System	❖ Introduction to Pine Training Academy. ❖ Embedded System and its applications ❖ Design Parameters of Embedded System and its significance ❖ Embedded System Design Flow. ❖ Analog and Digital Design Basic. ❖ Test and Interview Series.	
Module – 2 Embedded Hardware Concepts.	✓ Analog Signal Processing- ✓ BEGINNING FOR SYSTEM DEVELOPMENT ✓ STUDENT HELP TO KNOW HOW TO DESIGN ANALOG AND DIGITAL CIRCUIT. ✓ Test and Interview Series.	• DSO(DIGITAL STORAGE OSILLOSCOPE), • MULTI-METERS, • SIGNAL GENERTOR, POWER SUPPLY, PROTUS , PROJECTOR
Module – 3 ASSEMBLY AND C PROGRAMMING SKILL (EMBBEDDED C)	❖ Programing Languages:- ❖ Assembly level programing techniques. ❖ Lab exercises: ❖ REAL WORLD INTERFACING: LCD, Stepping Motor, ADC, DAC, LED, Push Buttons, Key board, Latch Interconnection, Different sensor, Memories. ❖ Introduction to Compiler & assembler and element of C programing and basic Labs for functions, pointers, structure and file handlings. ❖ Basic of Embedded C and programming. Embedded C programming exercise on MCU EVM KIT and Renesas 8/16 bit platform ❖ LANGUAGE IS MEDIUM TO COMMUNICATE WITH PROCESSOR, TO GET READY TO WRITE OPTIMISED, EFFICIENT CODE. ❖ Test and Interview Series.	• GCC, • KIEL, • CCS, • ROWLY'S, • ICC AVR, • VC++
Module – 4 Computer Architecture	❖ HELP TO UNDERSTAND: REGISTER LEVEL PROGRAMMING, LOW LEVEL DEVICE DRIVER, MULTI-CORE PROCESSOR and ITS WORKING. ❖ Test and Interview Series.	• GCC • KIEL • VC++

Module – 5 EMBEDDED PROGAMMING	❖ GET EXPERTISE :- • CONFIG PROCESSOR, • ISQ • ISR • UPPER HALF • BOTTOM HALF • PHERIPHARAL USAGE ❖ Test and Interview Series.	• VC++ • KIEL • GCC • OTHER COMPILER AND ASSEMBLER
Module – 6 PROJECT DEVELOPMENT AND MANAGEMENT TOOLS	❖ HELP TO PROTECT AND MANAGE CODE AND PROJECT FROM ISSUE LIKE THEFT,LOOSING CODE AND PROPERTY. ❖ Test and Interview Series.	• RCS • CVS • GIT • SOURCE CONROL AND OTHER METHODS
Module – 7 OTHER OPERATING SYSTEM AND RTOS	❖ HELP TO UNDERTANDING CONCEPT OF • MULTITHREADING • MULTI PROCESSING • LIKE INTER PROCESS COMMUNICATION • INTER THREAD COMMUNICATION , • THREADS • PROCESS ❖ Test and Interview Series.	• KIEL • GCC ON LINUX, • VC++
Module – 8 LOW LEVEL PROGRAMMING	❖ HELP HOW DRIVER TO WRITE, ❖ AND INSERT IN RUNNING OS ❖ LINUX FOR DEVICE DRIVER: CHAR, PARALLEL PORT, SERIAL PORT, BLOCK DEVICE DRIVER. ❖ Test and Interview Series.	• GCC, • KERNEL, • FEDORA, • UBUNTU
Module – 9 PROJECT DEVELOPMENT-PRODUCT DEVELOPMENT	INDEPENDENTLY ACTIVITY, HELP TO GAIN CONFIDENCE ❖ Embedded Application Project: • RF • Wireless • Control • Signal Processing Depend on Students Capability.	• PROTUES • KEIL • ROWLY • OR OTHER