

Programming

 Duration: 120 Hours

C & C++ with Data Structures

- Introduction to C & Data types, Operators
- Control Flow, Modular Programming, Inline Functions, Atomic Statement
- Storage classes, Reentrance, Arrays & Strings – Character Arrays, Memory Allocation
- Unions, Structure's, Pointers & Functions
Pointers & Usage
- Hands on tasks on C (Seed/Key), Bit Fields
- Portability issues in C, Hardware, Time, Space and Power aware Programming
- Debugging and Optimization of C programs
- Command Line Arguments & Files I/O, Block I/O, Random Access – f seek, f tell, rewind
- Linked list, Data structures Basics , Stack and Queues, Sorting Algorithms

- Data structures Basics, Stack and Queues
- Debugging and Optimization of C programs

OOPs with C++

- Introduction to Oops and C++
- Procedural Approach in C++
- Function Overloading & Name Mangling
- Object oriented Approach in C++
- Operator overloading
- Constructors & Destructors
- Static and constants
- Friend: Function and class
- Inheritance and "is a " relationship
- Run time polymorphism
- Exception handling & Multi Threading

Linux & Kernel Programming & RTOS

 Duration: 60 Hours

- Embedded Operating Systems
- Introduction to Boot loaders and Board Support Packages
- Process Management
- Message Queues, Debugging and Testing of Multi-Threaded Applications
- Timings, Synchronization, Locking & Interrupts
- Application Programming
- Driver Development & Debugging
- POSIX Thread Programming, POSIX Semaphores, Mutexes
- Memory management
- Linux Kernel Modules
- I/O Memory and Ports
- Introduction to RTOS
- Porting & Configuration

Embedded & Electronics & OS & Micro controllers



Duration: 120 Hours

- Basics of Embedded Systems
- Loaders & Debuggers
- Code Startups, Interrupts
- Architectures and Memory
- Timers / Counters, ADC, UART, SPI, PWM, WDT(Configuration)
- Input/Outputs
- Peripheral Programming
- Latest Micro Controllers Introduction
16/32 Bit (Renesas, Infineon)
- Assemblers, Compilers, Linkers
- Build ,Test & GNU Tools
- Introduction to Different Micro Controllers
- Communication Protocols- CAN, CANFD, SPI, I2C
- Memory Model, Exception Handling
- Single Core/Multi core Micro Controllers
- Basics HW Design
 - o Circuit Design & Schematic Designs
 - o Component Library and Standards

Project & Domain (AUTOSAR, MATLAB, Driver Development, IOT) etc



Duration: 2-3 Weeks

- Overview on Different Industries
- Introduction to IOT
- SDLC & STLC
- Introduction and Basics on MATLAB (Real Time)
- Introduction and Basics on AUTOSAR (Real Time)
- Project Submissions

And More...

- Aptitude & logical
- Business etiquette & communication
- Mock interviews
- Interactive sessions with industry experts



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