

C- Training topics and schedule

Course duration: (8 days)	Course structure and out line	
module	Module title	What you learn
M1 (8 days)	Programming in C	<u>Introduction to C Programming</u> - Evolution of language, Structure of a C program, The C compilation process, difference between compiler and cross-compiler.
		<u>Data types and Operators</u> - C built in data types and Modifiers, Precedence & Associativity – Arithmetic, logical, relational, bitwise, and ternary operator, Promotion & Typecasting, Qualifiers – const and volatile, Storage classes – auto, register, static, extern.
		<u>Control Flow</u> - Logical expressions and operations, Decision Making, nesting, branching statements, iterators.
		<u>Functions and pointers</u> - declaration, definition, call by value and call by reference, static, extern, inline, recursive functions. Command line arguments. Pointers – Null, wild, dangling, generic. <u>Library functions</u> - malloc, calloc, realloc, free, issues.
		<u>Array(integer)</u> - declaration, initialization(sized and unsized), passing array to function using call by reference, 1D, 2D, 3D pointer to 1D, 2D, 3D array, array of pointers.
		<u>Array(char)</u> - declaration, initialization, passing array to function using call by reference, 1D, 2D array of pointers to 2D chars. Stings – standard library functions – strlen, strcpy, strcmp, strcmp etc.
		<u>Preprocessor</u> - preprocessor directives – file inclusion, macros, conditional compilation, and miscellaneous directives. Compilation steps – preprocessor, compiler, assembler, linker and loader.
		<u>Structure, union, enum</u> – structure variable, pointers to structures, nesting of structures using structure variable and structure pointers, self-referential structure, applications. Unions - memory map, uses. Enum - uses. Typedef – for data type, arrays, structs, union, enum, function pointers.
		<u>Input and Output</u> - console i\o - formatted and unformatted. File i\o - txt files and binary files.
		<u>Miscellaneous topics</u> - function pointers, difference between #define and Typedef, function returning pointers.