

Syllabus

Course Type: Engineering

Course : Bachelor of Technology

Year/sem: 6 Sem

Branch : CSE

Created By:

Compiler Design

CS3604

Unit	Sub Unit	Topic	Duration
1		Compilation Process, Phases and passes of compiler, Bootstrapping, Cross Compiler Lexical Analysis: regular expression and their application to lexical analysis., optimization of DFA-Based Patterns in lexical analysis, Matcher's implementation of lexical analyzer, Lex compiler	1
2		YACC -automatic parser generator, BNF, CFG and CFL., top down parsing: Backtracking, LL(1), recursive descent parsing., Predictive parsing: Bottom-up parsing: : Shift Reduce parsing LR (0), , LR (1) and LALR (LR (k)) parsing, Error recovery in parsing and handling ambiguous grammar.	1
3		Intermediate forms of source Programs, abstract syntax trees, Polish notation and three address codes, Attributed grammar, Syntax directed translation., Conversion of Programming language Constructs into Intermediate code forms, Type Checking, Symbol table management., Organization for block structures, hashing, and Tree representation of scope information	1
4		Static and Dynamic storage allocation., storage allocation for Heaps, Arrays, strings and records, Code optimization: Scope of Optimization, local optimization, loop optimization, frequency reduction, folding, DAG representation. Data flow analysis: Flow graph, data flow equation, global optimization., redundant sub expression elimination, Induction variable elements, Live variable analysis, Copy propagation	1
5		Object code forms, machine dependent code optimization, register allocation and assignment generic code generation algorithms, DAG for register allocation	1