Language Processors [CS351](4-0-0)

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Discipline: III B.Tech (CSE) II Semester (Section A)
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Syllabus

Topic Names	Lecture Hours
Introduction to Compiling, Phases of Compiler, Cousins of the Compiler	**02**
Compiler Development, Bootstrapping, Compiler Development Environment	**02**
Review of regular Expressions	**01**
Lexical Analysis, Specification of Tokens, Lex Specifications	**02**
Review of Context Free Grammars in Normal Forms and Membership	**02**
Role of Parser, Top-down Parsing, First and Follow, Parse Table Construction, LL(1) Grammar	**02**
Bottom-up Parsing, Shift Reduce Parsing, Operator Precedence Parsing, Stack Implementation of parsing, Precedence Table Construction.	**02**
LR Parsers (SLR, Canonical, LALR), LR (0) item, L R (1) item, CALR (1) item, Parse Table Construction of LR Parsers.	**05**
Using Ambiguous Grammars, Parsing Tools, YACC	**02**
Syntax Directed Definitions, Syntax Trees, S-attributed Definition, Bottom-up Evaluation	**03**
Revision of Run-Time Environments, Access to Non-local Names, Parameter Passing, symbol Table	**03**
Intermediate Code Generation, Three Address Code, Quadruple, Triple, Indirect Triple, Intermediate languages, Declarations, Assignment Statements, Case Statements, Back patching	**06**
Code Generation, The target Machine, Basic blocks and flow graphs, Next-use Information, Simple Code Generator	**03**
DAG Representation, Peephole Optimization, Code Generation from DAG	**02**
Code Optimization, Principal Sources of Optimization, Loops in flow graphs	**03**

Reference Book:

1. Alfred V. Aho, Ravi sethi, J.D. Ullman, Compilers, Principles, Techniques, and Tools, Pearson.