

3. Uresh Vahalia: UNIX Internals: The New Frontiers, Pearson Education, 2001.

COMPILER DESIGN

Subject Code: 10CS63
Hours/Week : 04
Total Hours : 52

I.A. Marks : 25
Exam Hours: 03
Exam Marks: 100

PART - A

UNIT - 1

8 Hours

Introduction, Lexical analysis: Language processors; The structure of a Compiler; The evolution of programming languages; The science of building a Compiler; Applications of compiler technology; Programming language basics.

Lexical analysis: The Role of Lexical Analyzer; Input Buffering; Specifications of Tokens; Recognition of Tokens.

UNIT - 2

6 Hours

Syntax Analysis - 1: Introduction; Context-free Grammars; Writing a Grammar. Top-down Parsing; Bottom-up Parsing.

UNIT - 3

6 Hours

Syntax Analysis - 2: Top-down Parsing; Bottom-up Parsing.

UNIT - 4

6 Hours

Syntax Analysis - 3: Introduction to LR Parsing: Simple LR; More powerful LR parsers (excluding Efficient construction and compaction of parsing tables); Using ambiguous grammars; Parser Generators.

PART - B

UNIT - 5

7 Hours

Syntax-Directed Translation: Syntax-directed definitions; Evaluation orders for SDDs; Applications of syntax-directed translation; Syntax-directed translation schemes.

UNIT - 6

6 Hours

Intermediate Code Generation: Variants of syntax trees; Three-address code; Translation of expressions; Control flow; Back patching; Switch-statements; Procedure calls.

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UNIT - 7**6 Hours**

Run-Time Environments: Storage Organization; Stack allocation of space; Access to non-local data on the stack; Heap management; Introduction to garbage collection.

UNIT - 8**7 Hours**

Code Generation: Issues in the design of Code Generator; The Target Language; Addresses in the target code; Basic blocks and Flow graphs; Optimization of basic blocks; A Simple Code Generator

Text Books:

1. Alfred V Aho, Monica S.Lam, Ravi Sethi, Jeffrey D Ullman: Compilers- Principles, Techniques and Tools, 2nd Edition, Pearson Education, 2007.
(Chapters 1, 3.1 to 3.4, 4 excluding 4.7.5 and 4.7.6, 5.1 to 5.4, 6.1, 6.2, 6.4, 6.6, 6.7 to 6.9, 7.1 to 7.5, 8.1 to 8.6.)

Reference Books:

1. Charles N. Fischer, Richard J. leBlanc, Jr.: Crafting a Compiler with C, Pearson Education, 1991.
2. Andrew W Apple: Modern Compiler Implementation in C, Cambridge University Press, 1997.
3. Kenneth C Loudon: Compiler Construction Principles & Practice, Cengage Learning, 1997.

COMPUTER NETWORKS - II**Subject Code: 10CS64****I.A. Marks : 25****Hours/Week : 04****Exam Hours: 03****Total Hours : 52****Exam Marks: 100****PART - A****UNIT - 1****6 Hours**

Packet Switching Networks - 1: Network services and internal network operation, Packet network topology, Routing in Packet networks, Shortest path routing: Bellman-Ford algorithm.

UNIT - 2**6 Hours**

Packet Switching Networks - 2: Shortest path routing (continued), Traffic management at the Packet level, Traffic management at Flow level, Traffic management at flow aggregate level.

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