

Compiler Design

- 1) Intermediate Code Generation
- 2) Intermediate Languages - prefix & postfix
- 3) Quadruple tuple - indirect tuple RCP
- 4) Syntax Tree Evaluation of Expression -
3ADC
- 5) Synthesized attributes - Inherited attributes
- 6) Intermediate Languages - Declarations
- 7) Assignment Statements.
- 8) Boolean Expression, Case Statements
- 9) Back patching - Procedure calls
- 10) Code generation
- 11) Issues in the design of code Generator
- 12) The Target Machine - Runtime Storage Mgmt.
- 13) A simple code generator
- 14) Code generation algorithm
- 15) Register and Address Descriptors
- 16) Generating code of Assignment
- 17) Cross compiler - T diagrams
- 18) Issues in cross compilers.

Unit-5

1. Code Optimization
2. Intro - Principal Sources of Optimization
3. Function Preserving Transformation
4. Loop Optimization
5. Optimization of basic blocks
6. Building expression of DAG
7. Peephole Optimization
8. Basic blocks, flow graphs
9. Next-use information
10. Intro to Global Data flow analysis
11. Computation of gen and kill
12. Computation of in and out
13. Parameter passing
14. Runtime environments
15. Source language issues
16. Storage Organization
17. Activation Records
18. Storage allocation Strategies.

Syllabus Unit 4 & 5

DBMS

- 1) Relational Algebra
- 2) Pitfalls in Relational Database, Decomposing bad schema
- 3) Functional Dependency
- 4) Closure of FD set
- 5) Closure of Attributes
- 6) Irreducible set of FD
- 7) Normalization - 1NF, 3NF, 2NF
- 8) Decomposition using FD dependency
- 9) BCNF
- 10) Multi valued dependency
- 11) 4NF
- 12) Join dependency & SNF

- 1) Transaction concepts, properties of transaction
- 2) Serializability of transaction
- 3) Testing for serializability
- 4) System Recovery
- 5) Concurrency Control
- 6) Log based recovery
- 7) Concurrent executions of transaction & related problem
- 8) Locking mechanism solⁿ to concurrency
- 9) Dead lock 10) Two phase locking, isolation, interlock

NRA

- 1) Routers, Networks & Routing Info
- 2) Routing Table
- 3) Common of Routing Info
- 4) RIP V1, RIP V2
- 5) IGRP
- 6) EIGRP, Route Redisc.
- 7) OSPF Protocol
- 8) OSPF Packet
- 9) Integrated IS IS
- 10) IS-IS vs OSPF
- 11) IP Traffic Engineering
- 12) Application View
- 13) Traffic Engineering: An
- 14) Traffic Engineering: A Few Nodes
- 15) BGP Operations
- 16) BGP Decision
- 17) Internal BGP
- 18) Protocol Message Format.

(7) PST N.

- 1) Routing in Wireless Networks
- 2) Classification of routing Protocol
- 3) Table Driven Routing Protocols: DSDV, RP
- 4) Cluster Head Gateway
- 5) On demand routing Protocol
- 6) Ad Hoc on Demand & DV RP
- 7) Hybrid Routing Protocol
- 8) Zone Routing Protocol
- 9) Routing Protocols with efficient flooding
- 10) Optimized Link State
- 11) Hierarchical Routing
- 12) Power Aware Routing
- 13) Toward Next Gen
- 14) MPLS
- 15) Generalized MPLS
- 16) Routing & Traffic with MPLS

- 1) SSL/TLS Basic Protocol
- 2) Computing Hickeys
- 3) Client authentication
- 4) PKI as deployed by SSL
- 5) SSL Attacks fixed in v3
- 6) Exportability
- 7) Forwarding
- 8) Grouped Record
- 9) Handshake message
- 10) Change cipher suite & Alerts
- 11) SET

- 1) Wireless Security
IEEE 802.11 WLAN
- 2) Authentication
- 3) Authentication & Confidentiality
- 4) WEP Security
- 5) GSM (2G) Security
- 6) Security in UMTS (3G)
- 7) Wireless LAN Vulnerabilities
- 8) Trusting
- 9) Buffer overflow
- 10) Format string Attacks
- 11) XSS
- 12) SQL injection
- 13) Case Studies: Secure Inter branch Payment transactions
Virtual Elections

AI

1) Planning - Planning Problems, Simple Planning agent

2) Planning languages

3) Blocks World

4) Goal stack planning

5) Mean Ends Analysis

6) Non linear planning

7) Conditional planning

8) Reactive planning

9) ~~Reactive~~ Learning
- Machine Learning

10) Goals & Challenges of Machine Learning

Learning Concepts Models

→ Artificial neural net based learning Back propagation

→ Support vector machine

→ Reinforcement learning

→ Adaptive learning

→ Multiagent based learning

→ Ensemble learning

→ Decision making learning

→ Distributed learning

→ Deep learning

- Expert system Architecture
- Pros & Cons of expert system
- Rule based systems
- Frame based expert system
- Case study
- NLP, levels of NLP
- Syntactic & Semantic Analysis
- Information retrieval
 - Info extraction
- Machine translations
- NLP Applications
- Advance topics
 - Business intelligence
 - Sentiment Analysis
 - Deep learning Algo
 - Planning & logic in intelligent agents