DATABASE MANAGEMENT SYSTEM

Unit 1

1. Database Architecture
2. DDL,DCL,DML
3. Views of data
4. DBMS over FPS

Unit 2

1. ER Diagram
2. Keys, Attributes & Constraints
3. ER Diagram to Schema & ER issues

Unit 3

1. PL/SQL
2. Sub&Nested Queries
3. Query Processing

Unit 4

1. Normalisation
2. Dependency
3. Denormalisation
4. Issues in DBMS

Unit 5

1. Transaction (properties and states)
2. Serializiblity w.r.t. cocurrency control
3. ACID
4. Deadlock

COMPILER DESIGN

Unit 1

1. Phases of Compiler
2. NFA to DFA, RE to DFA
3. Minimization of DFA,NFA

Unit 2

1. Predictive parsing
2. Recursive descent parser
3. CFG
4. Top-Down & Bottom-Up

Unit 3

1. CLR
2. SLR
3. Shift Reduce Parsing

Unit 4

1. ICG
2. 3-Address Code
3. Backpatching
4. Simple Code Generator

Unit 5

1. Loop Optimization Techniques
2. Data flow analysis
3. Functon Preserving Transformation
4. Activation Records

FIBER OPTICS AND OPTO ELECTRICS

Unit 1

1. Various elements of optical fiber transmission link
2. Ray Optics & Types of ray
3. Optical fiber modes
4. Snell's law & Refractive index

Unit 2

1. Scattering losses
2. Bending losses
3. Types of dispersion
4. Principle OF PHOTODETECTION in Semiconductor

Unit 3

1. Surface & Edge - Emitting LED
2. LASER and its working with diagram
3. Factors causing RAYLEIGH SCATTERING
4. Quantum Efficiency & Fluroescence vs Phosphorescence

Unit 4

1. SOA
2. Electro Optic Modulator (transverse & longitudinal)
3. Raman Nath & Bragg Modulator
4. Optical Amplifier Gain

Unit 5

1. Mach Zender Interferometer
2. Materials & Processing techniques of OEIC
3. Integration (Hybrid & Monolithic)
4. PIN - HBT
5. Front End Photoreciever & Active Couplers

ARTIFICIAL INTELLIGENCE

Unit 1

1. Types of Agents
2. Crypto Arithmetic Problem
3. Problem solving with AI
4. AI Models

Unit 2

1. BFS,DFS
2. Informed Search (A*algorithm)
3. Min-Max Algorithm (Alpha Beta Pruning)
4. Hill Climbing algorithm

Unit 3

1. Forward & Backward Chaining
2. Predicate logic
3. FOL
4. Identifying Objects, Properties, Functions & Relations (unification)

Unit 4

1. STRIPS(Block World Problem)
2. Types of learning
3. SVM
4. Types of Planning (Goal stack, Non linear)

Unit 5

1. Expert system
2. NLP (levels & Applications)
3. Deep Learning algorithm
4. Pattern Analytics & Knowledge Acquisition System

WIRELESS SENSOR NETWORK

Unit 1

1. Node architecture
2. Design issues of wsn
3. Applications of wsn
4. Challenges and constraints in wsn

Unit 2

1. Analog and Digital Modulation
2. Bluetooth,zigbee,wifi,wimax
3. TELSOB
4. IEEE comparison

Unit 3

1. Mac and 4types
2. Trama
3. Contention based and contention free Y-mac

Unit 4

1. SPIN
2. SAR
3. Hierarchial
4. RPL
5. Directed diffusion

Unit 5

1. TinyOS & MagnetOS
2. Middleware architecture
3. Various types of attacks
4. MiLan

NETWORK SECURITY

Unit 1

1. Types of network layer attacks
2. IDS AND IPS
3. Audit records
4. Mallicious software
5. Packet filtering

Unit 2

1. IKE phases 1&2
2. ISAKMP decoding
3. Ipv4 and Ipv6 headers
4. AH and ESP

Unit 3

1. S/MIME
2. PGP
3. E-Mail security system (smtp)
4. Key Distribution System

Unit 4

1. SSL (also PKI)
2. TLS
3. SET

Unit 5

1. IEEE 802.11
2. Vulnerablities in WLAN
3. GSM & UMTS