

LESSON PLAN OF DBMS FOR THE ACADEMIC SESSION 2025-26 (SUMMER 2025)

Discipline: CE & IoT

Semester: 4th

Name of the Teaching Faculty: Paramananda Dash

Subject: Database Management Systems (Course Code: CEIPC 204/TH2)

No. of Days/Week Class Allotted: 03

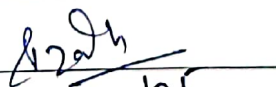
Semester Duration: From 22/12/2025 to 18/04/2026

No. of Weeks: 15

Weekly Teaching Schedule

Week	Class Day	Unit	Topics to be Covered
1st	1st, 2nd & 3rd	I	Unit I- Database Basics: Definition and Need for DBMS; Applications of DBMS; Database vs File System; DBMS Architecture components
2nd	1st, 2nd & 3rd	I	Views of Data (Logical and Physical); Data Models (Hierarchical, Network, Relational); Introduction to RDBMS; Advantages and Disadvantages of DBMS
3rd	1st, 2nd & 3rd	II	Unit II- Entity Relationship Model: Entities, Attributes, Relationships, and Constraints; Keys (Primary, Foreign, Candidate, Super Keys)
4th	1st, 2nd & 3rd	II	ER Diagrams and their components; Converting ER Diagrams to Relational Models
5th	1st, 2nd & 3rd	III	Unit III- Relational Algebra: Selection, Projection, Union, Intersection, Difference; Cartesian Product and Joins; Division operation
6th	1st, 2nd & 3rd	III	SQL (Structured Query Language): Data Definition Language (DDL) and Data Manipulation Language (DML); SQL Queries (Create, Alter, Drop, Insert, Update, Delete)
7th	1st, 2nd & 3rd	III	Basic and Advanced Queries: Filtering, Sorting, Aggregate Functions, and Group By; Join: Inner, Outer, Left, Right, and Cross Joins
8th	1st, 2nd & 3rd	IV	Unit IV- Database Design and Normalization: Data Redundancy and Anomalies; Functional Dependencies; Normalization Process
9th	1st, 2nd & 3rd	IV	Normal Forms: 1 st NF, 2 nd NF, 3 rd NF, and BCNF; Decomposition of Relations
10th	1st, 2nd & 3rd	V	Unit V- Database Transaction Management and Concurrency Control: Transactions: Properties (ACID), States, and Schedules; Serializability and Recoverability
11th	1st, 2nd & 3rd	V	Concurrent Control: Locks, Deadlocks, and Timestamp Ordering
12th	1st, 2nd & 3rd	VI	Unit VI- Database Administration and Security Management: User Management in DBMS; Privileges and Roles in Database
13th	1st, 2nd & 3rd	VI	Backup and Recovery mechanisms; Database Security: Authentication, Authorization, and Encryption
14th	1st, 2nd & 3rd	VI	Access Control and Encryption techniques; Data Protection strategies
15th	1st, 2nd & 3rd	VI	Revision and Assessment

Signature of Faculty: _____


22/12/25

P. Dash, Sr. Lect. CA

LESSON PLAN OF COMPUTER NETWORK FOR THE ACADEMIC

SESSION 2025-26(SUMMER 2025)

Discipline: CE & IoT

Semester: 4th

Name of the Teaching Faculty: Paramananda Dash

Subject: Computer Networks (Course Code: CEIPC 203/TH1)

No. of Days/Week Class Allotted: 03

Semester Duration: From 22/12/2025 to 18/04/2026

No. of Weeks: 15

Week	Class Day	Unit	Topics to be Covered
1st	1st, 2nd & 3rd	I	Unit I- Introduction: Introduction to computer networks; Network Models; OSI Reference Model; The layer architecture
2nd	1st, 2nd & 3rd	I	TCP/IP Model; 4-Layer TCP/IP suite; Network protocols overview and comparison
3rd	1st, 2nd & 3rd	II	Unit II- Physical Layer: Transmission Media - Principles and issues; Wired Media - Coaxial, UTP, STP, Fiber Optic Cables - Single Mode & Multimode
4th	1st, 2nd & 3rd	II	Wireless Media - HF, VHF, UHF, Microwave, Ku Band, Wi Fi 802.11 a/b/g/n/ac; Cellular Data - 2G, 3G, 4G, 5G; Network topologies
5th	1st, 2nd & 3rd	III	Unit III- Data Link Layer: Design issues; DLL protocols (Ethernet, WLAN, Bluetooth); Switching Techniques; VLAN concepts and configuration
6th	1st, 2nd & 3rd	III	MAC addressing; Frame structure and error detection; Point-to-Point Protocol (PPP); Medium Access Control mechanisms
7th	1st, 2nd & 3rd	IV	Unit IV- Network Layer: Design issues; Internet Protocol (IPv4 and IPv6); Routing - principles and issues; Routing Algorithms (Distance-vector, Link-state)
8th	1st, 2nd & 3rd	IV	Routing Protocols: RIP, OSPF; IP addressing and subnetting; Network Address Translation (NAT); ICMP protocol
9th	1st, 2nd & 3rd	IV	Advanced routing concepts; QoS (Quality of Service) considerations; Multicast and Broadcast routing overview
10th	1st, 2nd & 3rd	V	Unit V- Transport Layer: Design issues; UDP and TCP protocol comparison; Connection establishment and termination; Flow control and congestion control
11th	1st, 2nd & 3rd	V	TCP congestion control algorithms; Reliability mechanisms; Error handling and retransmission strategies
12th	1st, 2nd & 3rd	VI	Unit VI- Application Layer: Design issues; DNS (Domain Name System); DHCP (Dynamic Host Configuration Protocol); SNMP (Simple Network Management Protocol)
13th	1st, 2nd & 3rd	VI	FTP (File Transfer Protocol) and TFTP; SMTP (Simple Mail Transfer Protocol); Telnet and SSH (Secure Shell)
14th	1st, 2nd & 3rd	VI	WWW (World Wide Web); HTTP and HTTPS; Email protocols; Web services and APIs overview
15th	1st, 2nd & 3rd	VII	Unit VII- Network Devices: NIC (Network Interface Card); Hub; Switch - Core, Distribution & Access Switches; Router; Wi Fi Access Point & Wireless LAN Controller; Revision and Assessment

Signature of Faculty:

Paramananda Dash
22/12/25

P. Dash, Sr. Lect. CA.

**LESSON PLAN OF ESSENCE OF INDIAN KNOWLEDGE AND TRADITION FOR THE
ACADEMIC SESSION 2025-26(SUMMER 2025)**

Discipline: CE & IoT

Semester: 4th

Name of the Teaching Faculty: Paramananda Dash

Subject: ESSENCE OF INDIAN KNOWLEDGE AND TRADITION (Course Code: AU 202)

No. of Days/Week Class Allotted: 03

Semester Duration: From 22/12/2025 to 18/04/2026

No. of Weeks: 15

Weekly Teaching Schedule

Week	Class Day	Unit	Topics to be Covered
1st	1st, 2nd & 3rd	I	Introduction to traditional knowledge: Definition, nature, characteristics, scope and importance
2nd	1st, 2nd & 3rd	I	Kinds of traditional knowledge (Unani, Siddha, Ayurveda); Indigenous Knowledge (IK); TK vs IK; TK of Odisha
3rd	1st, 2nd & 3rd	II	Protection of TK: Need and significance; TK in global economy; Government role in harnessing TK
4th	1st, 2nd & 3rd	II	Case studies and examples of TK protection initiatives in India and abroad
5th	1st, 2nd & 3rd	III	Legal framework: Forest Rights Act 2006; PPVFR Act 2001; Biological Diversity Act 2002 & Rules 2004
6th	1st, 2nd & 3rd	III	Protection of TK Bill 2016; Legal challenges and enforcement mechanisms
7th	1st, 2nd & 3rd	IV	TK and Intellectual Property: Protection systems; Legal concepts; Patents and TK
8th	1st, 2nd & 3rd	IV	Strategies for TK protection; Geographical Indications (GI); Case studies
9th	1st, 2nd & 3rd	V	TK in Engineering and Medicine; TK in Agriculture; TK for food and healthcare needs
10th	1st, 2nd & 3rd	V	TK and environmental conservation; Sustainable development; Biodiversity management
11th	1st, 2nd & 3rd	V	TK and food security; National strategies for TK protection
12th	1st, 2nd & 3rd	I to V	Revision of Units I to V; Discussion and Q&A
13th	1st, 2nd & 3rd	I to V	Group presentations on TK applications in various sectors
14th	1st, 2nd & 3rd	I to V	Assessment preparation; Mock tests and feedback
15th	1st, 2nd & 3rd	I to V	Final assessment and evaluation; Summary and reflections

Signature of Faculty: _____



22/12/2025

P. Dash, Sr. Lect. CA