Introduction to Physical and Logical Design

Subject:System Analysis And Desig
Prepared By: Apurva Mishra
Department: Computer Application

Introduction

The Software Development Life Cycle (SDLC) is a structured process used to develop information systems.

Phases include:

- Planning
- Analysis
- Design
- Implementation
- Testing
- Maintenance

👉 Design phase is divided into:

- Logical Design
- Physical Design

Logical Design

Logical Design describes **what the system should do**.

Key Points:

- Focuses on business requirements
- Describes system functionality
- Independent of technology
- Provides a conceptual view

Tools Used:

- Data Flow Diagram (DFD)
- Entity Relationship Diagram (ERD)

👉 Example: User login system with username and password

Features of Logical Design

- High-level design
- Focus on processes and data flow
- No coding involved
- Easy to understand
- Used by system analysts

👉 Helps in creating a blueprint of the system

Physical Design

Physical Design describes **how the system will be implemented**.

Key Points:

- Focus on hardware and software
- Defines system architecture
- Technology dependent
- Converts logical design into real system

Examples:

- Database tables
- Programming languages
- Network structure

Features of Physical Design

- Low-level design
- Includes coding and algorithms
- Performance optimization
- Security implementation
- Used by developers

👉 Example: Login system using Java + MySQL database

Difference & Conclusion

Difference

- Logical Design → *What system does*
- Physical Design → *How system works*

Conclusion

Both designs are important:

- Logical design gives the **structure**
- Physical design gives the **implementation**

Together, they ensure a successful system development