

MS 2nd Semester
Subject Code: MS 25
Subject Name: Software Architecture

Block 1 – Introduction to Software Architecture

Unit 1- **Introduction to Software Architecture:** Introduction, Elements of Software Architecture, Architectural Description, Software Architecture versus Software Design Methodologies, Types of Architecture, Architecture in the Life Cycle.

Unit 2- **Software Architecture Design:** Introduction, The Architecture Design Process, Identifying Design Elements and Their Relationships, Understanding the Problem, Evaluating the Architecture, Transforming the Architecture, Problems in Software Architectural Design, The Scope of Design.

Unit 3- **Documenting Software Architectures:** Introduction, Uses of Architectural Documentation, Views, Choosing the Relevant Views, Documenting a View, Documenting Interfaces, Documentation across Views, Software Architecture Models.

Block 2 – Design Patterns

Unit 1- **Design Patterns:** Introduction, Content of a Pattern, Terminology, Security Pattern, A Pattern System For Access Control, Patterns For Metadata-Based Access Control.

Unit 2- **Pattern Types: Creational Patterns:** Design Principles, Types of Patterns, Creational Pattern, Abstract Factory Design Pattern, Builder Design Pattern, Factory Method Design Pattern, Singleton Design Pattern.

Unit 3- **Pattern Types: Behavioural Patterns:** Introduction, Chain of Responsibility, Command Design Pattern, Interpreter Design Pattern, Strategy Design Pattern.

MS 2nd Semester
Subject Code: MS 25
Subject Name: Software Architecture

- Unit 4- Design Types: Structural Patterns:** Introduction, Adapter Design Pattern, Bridge Design Pattern, Private Class Data, Proxy Design Pattern, Composite Design Pattern.
- Unit 5- Enterprise Architecture:** Introduction, What is Enterprise Architecture, Architectural Views, Information Architecture, Enterprise Architecture – The Starting Point, The Architecture Development Methodology, Develop EA Project Infrastructure, Develop Information Architecture, Develop Process (Business) Architecture, Develop Application Architecture, Develop Technology Architecture, Document Deliverables in Metadata, EA Metadata Model Definitions.