Software Engineering

UNIT – I

Software Engineering Fundamentals: Definition of software product and process (03), Software Crisis, Software development paradigms (03), Software lifecycle models: Waterfall Model, Prototyping Model, Iterative Enhancement Model, Evolutionary Development Model, and Spiral Model (04).
Lectures: 10

UNIT – II

Software Requirement Analysis & Specification: System specification, Software requirements specification (SRS) standards (02), Formal specification methods, Specification tools, Requirements validation and management (02). Software Process: Software Process and Models, Tools and Techniques of Process Modeling, Product and Process (04). Important qualities of software product and process: correctness, reliability, robustness, user-friendliness, verifiability, maintainability, reusability, portability, data abstraction, modularity, Principles of software engineering (04).
Lectures: 12

UNIT – III

Software Design: Software architecture, Modular design - cohesion and coupling (02), Process-oriented design, Data-oriented design, User-interface design, Real-time software design (04). CASE Tools: Relevance of CASE tools, High-end and low-end CASE tools (02), Automated support for data dictionaries, DFD, ER diagrams (04).
Lectures: 12

UNIT – IV

Coding and Testing: Choice of Programming languages, Coding standards (02), Introduction to Testing Process, Functional & Structural Testing (02), Testing Activities like UNIT, Integration & System Testing (04), Testing tools and workbenches (03).
Lectures: 11