Module - I

Syllabus : Nature of Software, Software Engineering, Software Process, Capability Maturity Model (CMM)s. Generic Process Model, Prescriptive Process Models, The Waterfall Model V-model, Incremental Process Models, Evolutionary Process Models, Concurrent Models, Agile process Agility Principles, Extreme Programming (XP), Scrum Kanban Model.

Chapter 2 : Process Models **2-1 to 2-30**

Module - II

Syllabus : Requirement Elicitation , Software requirement specification (SRS), Developing Use Cases (UML), Scenario-based model, Class-based model, Behavioural model.

Module - III

Syllabus : Management Spectrum, 3Ps (people, product and process), Process and Project metrics, Software Project Estimation: LOC, FP, Empirical Estimation Models - COCOMO II Model, Specialized Estimation Techniques, Project scheduling : Defining a Task Set for the Software Project, Timeline charts, Tracking the Schedule, Earned Value Analysis

Module - IV

Syllabus : Design Principles, Design Concepts, Effective Modular Design, Cohesion and Coupling. Architectural Design, Component-level design and User Interface Design.

Module - V

Syllabus : Risk Identification, Risk Assessment, Risk Projection, RMMM. Software Configuration management, SCM repositories, SCM process, Software Quality Assurance :Task and Plan, Metrics, Software Reliability Formal Technical Review (FTR), Walkthrough

Module - VI

Syllabus : Strategic Approach to Software Testing, Unit testing, Integration testing, Verification and Validation Testing, System Testing, Software Testing Fundamentals, White-Box Testing, Basis Path Testing, Control Structure Testing, Black-Box Testing, Software, maintenance and its types, Software Re-engineering, Reverse Engineering.

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