

**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.

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**Module - II**

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**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

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**Module - IV**

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**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

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**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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