

Lecture: 4 periods/week  
Tutorial: 1 period /week

Internal assessment: 30 marks  
Semester end examination: 70 marks

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**Objectives:**

1. To understand project planning and management
2. About client management and project definition.
3. About testing based approach to development.
4. About team management and ongoing schedule tracking.

**Learning Outcomes:**

1. An ability to understand components of software management.
2. To gain enough knowledge in software management and process framework.
3. To gain knowledge about software management and disciplines.
4. Track project execution through collecting artifacts and metrics according to procedures described in management plan.

**UNIT - I**

**Conventional Software Management:** The waterfall model, conventional software Management performance.

**Evolution of Software Economics:** Software Economics, pragmatic software cost estimation.

**UNIT - II**

**Improving Software Economics:** Reducing Software product size, improving software processes, improving team effectiveness, improving automation, Achieving required quality, peer inspections.

**The old way and the new:** The principles of conventional software Engineering, principles of modern software management, transitioning to an iterative process.

**UNIT - III**

**Life cycle phases:** Engineering and production stages, inception, Elaboration, construction, transition phases.

**Artifacts of the process:** The artifact sets, Management artifacts, Engineering artifacts, programmatic artifacts.

**UNIT - IV**

**Model based software architectures:** A Management perspective and technical perspective.

**Work Flows of the process:** Software process workflows, Iteration workflows.

**UNIT - V**

**Checkpoints of the process:** Major mile stones, Minor Milestones, Periodic status assessments.

**Iterative Process Planning:** Work breakdown structures, planning guidelines, cost and schedule estimating, Iteration planning process, Pragmatic planning.

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**UNIT - VI**

**Project Organizations and Responsibilities:** Line-of-Business Organizations, Project Organizations, evolution of Organizations.

**Process Automation:** Automation Building blocks, The Project Environment.

**UNIT - VII**

**Project Control and Process instrumentation:** The seven core Metrics, Management indicators, quality indicators, life cycle expectations, pragmatic Software Metrics, Metrics automation.

**Tailoring the Process:** Process discriminants.

**UNIT - VIII**

**Future Software Project Management:** Modern Project Profiles, Next generation Software economics, modern process transitions.

**Case Study:** The command Center Processing and Display system- Replacement (CCPDS-R)

**Learning Resources**

**Text Book:**

1. Software Project Management, Walker Royce: Pearson Education, 2005.

**Reference Books:**

1. Software Project Management, Bob Hughes and Mike Cotterell: Tata McGraw-Hill Edition.
2. Software Project Management, Joel Henry, Pearson Education.
3. Software Project Management in practice, Pankaj Jalote, Pearson Education.2005.