# 20IT32E1 - SOFTWARE PROJECT MANAGEMENT

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| Course Category: | Professional Elective | Credits: | 3 |
| Course Type: | Theory | Lecture-Tutorial-Practical: | 3-0-0 |
| Prerequisite: | Students need to have knowledge of Software engineering | Sessional Evaluation:Univ. Exam Evaluation:Total Marks: | 4060100 |
| Objectives: | * To study how to plan and manage projects at each stage of the software development life cycle (SDLC)
* To train software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process.
* To understand successful software projects that support organization’s strategic goals
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| Course Outcomes | Upon successful completion of the course, the students will be able to: |
| CO1 | Understand the basics of software organization as related to project and process management. |
| CO2 | Recognize the basic capabilities of software project. |
| CO3 | Procure the basic steps of project planning and project management.  |
| CO4 | Compare and differentiate organization structures and project structures |
| CO5 | Employ the responsibilities for tracking the software projects.  |
| CO6 | Track the process automation and project control. |
| Course Content | 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, and pragmatic artifacts.UNIT-IV**Model-based Software Architectures**: A Management perspective and technical perspective.**Work Flows of the process:** Software process workflows, Iteration workflows. **Checkpoints of the process:** Major milestones, Minor Milestones, Periodic status assessments.UNIT-V**Iterative Process Planning:** Work breakdown structures, planning guidelines, cost and schedule estimating, Iteration planning process, Pragmatic planning.**Project Organizations and Responsibilities:** Line-Of-Business Organizations, Project Organizations, Evolution of Organizations.UNIT-VI**Process Automation:** Automation Building Blocks, The Project Environment.**Project Control and Process Instrumentation:** The Seven Core Metrics, Management Indicators, Quality Indicators, Life Cycle Expectations. |
| Text Books &ReferenceBooks | **TEXT BOOKS:**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.
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| E-Resources | 1. <https://nptel.ac.in/courses>
2. <https://freevideolectures.com/university/iitm>
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