# 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: | 40  60  100 |
| 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 &  Reference  Books | **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. | |
| E-Resources | 1. <https://nptel.ac.in/courses> 2. <https://freevideolectures.com/university/iitm> | |

**CO-PO Mapping:** 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

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|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 3 | 1 | - | - | - | - | - | - | - | - | 1 | 2 |
| **CO2** | 2 | 3 | 2 | - | - | 1 | - | 1 | 2 | 2 | 3 | - |
| **CO3** | 2 | 2 | 1 | - | - | 1 | 2 | 1 | 2 | 2 | 3 | 1 |
| **CO4** | 2 | 2 | 1 | - | - | 1 | 2 | 1 | 2 | 2 | 3 | 2 |
| **CO5** | 3 | 2 | 1 | - | - | 1 | 3 | 1 | 2 | 2 | 3 | 1 |
| **CO6** | 3 | 2 | 1 | - | - | 1 | 3 | 1 | 3 | 3 | 3 | 2 |