4/4 B.Tech. SECOND SEMESTER

IT8T2B   **SOFTWARE PROJECT MANAGEMENT   Credits: 4**
                              (Common to CSE/IT/ECM)

Lecture: 4 periods/week   **Internal assessment: 30 marks**
Tutorial: 1 period /week   **Semester end examination: 70 marks**

Objectives:

- To Introduce the basics of software project management and taught the Four basic building blocks of software project management
- To Demonstrate about successful software projects that support organization's strategic goals and Match organizational needs to the most effective software development model
- To Explain how to plan and manage projects at each stage of the software development life cycle (SDLC) and Create project plans that address real-world management challenges
- To Teach the skills for tracking and controlling software deliverables.

Outcomes:

Students will be able to

- Plan and manage projects at each stage of the SDLC.
- Take responsibility of a project team and project organization.
- Apply theoretical knowledge on project management and software development into practice
- Gain knowledge on ethical issues related to software project management and can apply this ethical knowledge in practical situations.
- Understands how different management and development practices affect software and process quality.
- Create project plans that address real-world management challenges.

Syllabus

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.

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, Process discriminates.

UNIT - VIII
Future Software Project Management: Next generation Software economics, modern process transitions, Efforts Estimation and scheduling.

Text Books :

1. Software Project Management, Walker Royce Pearson Education, 2009.

Reference Books :

1. Software Project Management, Bob Hughes and Mike Cotterell Tata McGraw- Hill Edition.
2. Software Project Management in Practice, Pankajjalot, Pearson Education
3. Software Project Management, Joel Henry, Pearson Education.
4. Software Project management, Sanjay Mohopatra
5. Software Project management, A Concise Study, S.A.Kelkar