## (IT610) SOFTWARE PROJECT MANAGEMENT (ELECTIVE - III)

### Objective of the course :

This course mainly focuses to Provide systematic ways of doing requirements specification, design, coding, testing maintenance, and project management and to expose the systematic software development techniques. It also concentrates software project management techniques like team building and team management.

## UNIT - I

**Introduction to Software Engineering** : Evolving Role of Software – Software – Changing Nature of Software – Legacy Software – Software Myths.

A Generic View of Process : Software Engineering - A Layered Technology – A Process Framework – CMMI – Process Patterns – Process Assessment – Personal and Team Process Models – Process Technology – Product and Process.

#### UNIT - II

**Process Models :** Perspective Models – The Waterfall Model – Incremental Process Models – Evolutionary Process Models – Specialized Process Models – The unified Process An Agile View of Process – What is Agility – What is an Agile Process – Agile Process Models – Extreme Programming – Adaptive Software Development – Dynamic Systems Development Method – Scrum – Crystal – Feature Driven Development – Agile Modeling

#### UNIT - III

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

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

**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 - IV

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

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

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.

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

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

# **TEXT BOOKS :**

- 1. Roger S.Pressman, "Software Engineering A Practitioner's Approach", 6th ed., Mc Graw Hill, 2006.
- 2. Walker Royce "Software Project Management", 1<sup>st</sup> ed., Pearson Education, 2005.