SOFTWARE PROJECT MANAGEMENT

(Professional Elective-IV) / (Common to CSE & IT)

Course Code: 15CT1126

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Pre-requisites:

Software Engineering

Course Outcomes :

At the end of the Course, the Student will be able to:

CO 1 Estimate overall cost of a software project.

CO 2 Explain software development process.

CO 3 Distinguish workflows of process.

CO 4 Design project organization structure & analyze quality.

CO 5 Estimate effort and schedule needed for project.

UNIT-I **(10 Lectures)**

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 through Software Economics.

UNIT-II **(10 Lectures)**

THE OLD WAY AND THE NEW:

The Principles of Conventional Software Engineering, The Principles of Modern Software Management, Transitioning to an Iterative Process.

LIFE CYCLE PHASES:

Engineering and Production Stages, Inception Phase, Elaboration Phase, Construction Phase, Transition Phase.

UNIT-III (10 Lectures)

MODEL BASED SOFTWARE ARCHITECTURES:

A Management Perspective, A Technical Perspective.

WORKFLOWS OF THE PROCESS:Software Process Workflows, Iteration Workflows.

ITERATIVE PROCESS PLANNING:

Work Breakdown Structures, Planning Guidelines, The Cost and Schedule Estimating Process, The Iteration Planning Process.

UNIT-IV (10 Lectures)

PROJECT ORGANIZATION AND RESPONSIBILITIES:

Line-Of-Business Organizations, Project Organizations, Evolution of Organizations.

PROJECT CONTROL AND PROCESS INSTRUMENTATION:

The Seven Core Metrics, Management Indicators, Quality Indicators Modern Project Profiles. The COCOMO Cost Estimation Model: COCOMO.

UNIT-V (10 Lectures)

EFFORT ESTIMATION AND SCHEDULING:

Effort Estimation, Scheduling.

QUALITY PLANNING:

Quality Concepts, Quantitative Quality Management Planning.

RISK MANAGEMENT: Risk Assessment, Risk Control.

TEXT BOOKS:

1. Walker Royce, “Software Project Management – A UnifiedFramework”, 1st Edition, Pearson Education, 2002.
2. PankajJalote, “Software Project Management in Practice”, 1st Edition, Pearson Education, 2002.

REFERENCES:

1. Bob Hughes, "Mike Cotterell, Rajib Mall, Software ProjectManagement", 5thEdition, McGraw-Hill Higher Education, 2011.
2. Joel Henry, "Software Project Management", 1st Edition, Pearson Education, 2004.
3. Norman E. Fenton,Shari Lawrence Pfleeger, "Software Metrics: A Rigorous and Practical Approach ", 1st Edition, PWS Publishing Company, 1997.