SOFTWARE PROJECT MANAGEMENT

VI Semester: CSE & IT

Course Code	Category	Hours/Week			Credits	Maximum Marks		
		L	T	P	C	CIA	SEE	Total
ACIC05	Elective	3	0	0	3	30	70	100

Contact Classes:45	Tutorial Classes: Nil	Practical Classes: Nil	Total Classes:45

Prerequisite: Object Oriented Software Engineering

I. COURSEOVERVIEW:

The main goal of software development projects is to create a software system with a predetermined functionality and quality in a given time frame and with given costs. For achieving this goal. models are required for determining target values and for continuously controlling these values. This course focuses on principles, techniques, methods & tools for model-based management of software projects. Assurance of product quality and process adherence (quality assurance), as well as experience-based creation & improvement of models (process management).

II. COURSE OBJECTIVES:
The students will try to learn:
  I.   The specific roles within a software organization as related to project and process management
  II. The basic infrastructure competences (e.g., process modeling and measurement).
  III. The basic steps of project planning, project management. Quality assurance, and process management and their relationships.

III. COURSE OUTCOMES:
After successful completion of the course, students should be able to:

CO 1 **Outline** process models, approaches and techniques for managing software development process.   Understand

CO 2 **Evaluate** professional ethics in successful project development   Apply

CO 3 **Elaborate** the life cycle of project management.   Analyze

CO 4 **Analyze** evaluation of organization and core metrics for projectorganization.   Understand

CO 5 **Apply** model based architectural concepts for building software   Apply

CO 6 **Determine** case study on future software project managementpractices in business context and scope of the project..   Analyze

IV. COURSE SYLLABUS:
MODULE–I:CONVENTIONAL SOFTWARE MANAGEMENT (09)
The waterfall model, conventional software Management performance. Evolution of Software Economics: Software Economics. Pragmatic software cost estimation.

MODULE–II:IMPROVING SOFTWARE ECONOMICS (09)
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 modem software management, transitioning to an iterative process.

MODULE– III:LIFE CYCLE PHASES (09)
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.

MODULE– IV:PROJECT ORGANIZATIONS (09)

Project Organizations Line-of- business organizations, project organizations, evolution of organizations, process automation. Project Control and process instrumentation the seven-core metrics, management indicators, quality indicators, life-cycle expectations, Pragmatic software metrics, metrics automation.

MODULE– V:CASE STUDIES (09)

CCPDS-R Case Study and Future Software Project Management Practices Modern Project Profiles, Next-Generation software Economics, Modern Process Transitions.

V. TEXTBOOKS:
1. Walker Royce, "Software Project Management", Pearson Education, 6th Edition, 2000.
2. Bob Hughes & Mike Cotterell, "Software Project Management", Tate McGraw H, 4th Edition, 2000.

VI. REFERENCE BOOKS:
1. Andrew SteIbian 8 Jennifer Greene, "Applied Software Project Management", O'Reilly. 2006.
2. Jennifer Greene & Andrew Steliman, "Head First PMP", O RoiHy, 2007.
3. Richard H. Thayer & Edward Yourdon, "Software Engineering Project Management", Wiley India, 2nd Edition, 2004.
4. Jim Highsniith, "Ale Project Management", Pearson Education, 2004.