SCHEME OF COURSE WORK

Course Details:

Course Title	**:SOFTWARE PROCESS AND PROJECT MANAGEMENT**		
Course Code	**:15IT2110**	**L T P C**	**:3 1 0 3**
Program:	**: M.Tech**		
Specialization:	**: Software Engineering**		
Semester	**:II**		
Prerequisites	**:Software Engineering, Software Project Management**		
Courses to which it is a prerequisite	**: Software Quality & Management**		

Course Outcomes (COs):

1	Describe software process maturity framework.
2	Explain conventional software management and software economics.
3	Discuss software projects and project planning.
4	Analyze project tracking and control.
5	Assess the role of project closure analysis.

Program Outcomes (POs):

A graduate of Software Engineering will be able to

1	Ability to demonstrate in-depth knowledge of Software Engineering with analytical and synthesizing skills.
2	Ability to analyze complex problems critically and provide viable solutions.
3	Ability to evaluate potential solutions to a problem and arrive at optimal solutions.
4	Ability to apply research methodologies to develop innovative techniques for solving complex Information Technology related problems.
5	Ability to apply techniques and tools to solve complex problems.
6	Ability to work as an effective team member in a collaborative and multidisciplinary project to achieve common goals.
7	Ability to manage a software team and to maintain financial records as per standards.
8	Ability to effectively communicate with clients, peers and society at large.
9	Ability to take up lifelong learning to be in tune with the fast-changing software related technologies.
10	Ability to follow ethical practices in the software industry and accept social responsibility.
11	Ability to learn independently from mistakes and surge forward with positive attitude and enthusiasm.

Course Outcome Versus **Program Outcomes:**

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
CO-1	S	S		S		M					
CO-2	S		S	M							
CO-3	S	S				M					
CO-4						M		S	M		M
CO-5	S	S				M	S	M	S	M	

S - Strongly correlated, *M* - *Moderately* correlated, *Blank* - *No correlation*

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam

Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	Principles of Software Process Change, Software Process Assessment	CO-1	Explain about Software Process Assessment.	▫ Lecture ▫ Demonstration	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
2	The Initial Process The Repeatable Process ,The Defined Process	CO-1	Describe about repeatable software process	▫ Lecture / Discussion ▫ Problem solving	Mid-Test 1 (Week 9)
3	The Managed Process, The Optimizing Process.	CO-1	1. Explain about CMMi Model. 2. Describe IDEAL model	▫ Lecture ▫ Problem solving	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
4	CMM,CMMi, PCMM	CO-2		▫ Lecture	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
5	PSP, TSP, IDEAL, Process Definition Techniques.	CO-2		▫ Lecture ▫ Problem solving	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
6	Conventional Software Management, Evolution of Software Economics Improving Software Economics, The old way and the new way.	CO-2	Identify the key aspects of modern software project management	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
7	Project Management and the CMM, Project Management and CMMi	CO-3	Describe spiral model with a neat diagram.	▫ Lecture ▫ Problem solving	Mid-Test 1 (Week 9)
8	Project Management Process Framework.Software Life Cycle Models, Project Organizations and Responsibilities	CO-3		▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 1 - 8) Mid-Test 1 (Week 9)
9	**Mid-Test 1**			▫ Lecture ▫ Problem solving	Mid-Test 2 (Week 18)
10	Artifacts of the Project Management Process, Cost and Scheduling estimation Establishing Project Environment	CO-3	Describe about cost and schedule estimation.	▫ Lecture ▫ Discussion ▫ Problem solving	Mid-Test 2 (Week 18)
11	Risk Management, Quality Assurance and Configuration Management	CO-3	Deduce the role of risk management in project planning.	▫ Lecture ▫ Discussion	Mid-Test 2 (Week 18)
12	Defect Tracking, Issue Tracking, Status Reports, Milestone Analysis	CO-4	Describe the most effective and commonly used method for identifying	▫ Lecture ▫ Problem solving	Assignment (Week 10-14) Mid-Test 2 (Week 18)
13	Defect Analysis and Prevention Methods, Process monitoring and	CO-4		▫ Lecture ▫ Discussion	Assignment (Week 10-14) Mid-Test 2

	audit Reviews,		defects.		(Week 18)
14	Inspections and Walkthroughs, Seven Core Metrics Management indicators, Quality Indicators	CO-4	Explain seven core metrics	▫ Lecture	Assignment (Week 10-14) Mid-Test 2 (Week 18)
15	Project Closure Analysis, Role of Closure Analysis in a project	CO-5	Briefly describe the contents of closure analysis report.	▫ Lecture ▫ Discussion Problem solving	Assignment (Week 10-14) Mid-Test 2 (Week 18)
16	Performing Closure Analysis, Closure Analysis Report, Modern Project Profiles	CO-5		▫ Lecture ▫ Discussion	Assignment (Week 10-14) Mid-Test 2 (Week 18)
17	Next-Generation software Economics Modern Process Transitions	CO-5	Explain about modern processes.	▫ Lecture	Assignment (Week 10-14) Mid-Test 2 (Week 18)
18	**Mid-Test 2**				
19/20	**END EXAM**				