

SEMESTER S5

SOFTWARE PROJECT MANAGEMENT

(Common CS/CD/CM/CR/CA/AD/AM)

Course Code	PECST521	CIE Marks	40
Teaching Hours/Week (L: T:P: R)	3:0:0:0	ESE Marks	60
Credits	3	Exam Hours	2 Hr.30 Min.
Prerequisites (if any)	PECST411	Course Type	Theory

Course Objectives:

1. To learn the techniques to effectively plan, manage, execute, and control projects within time and cost targets with a focus on Information Technology and Service Sector.
2. To learn agile project management techniques such as Scrum and DevOps.

SYLLABUS

Module No.	Syllabus Description	Contact Hours
1	Project scheduling and feasibility study :- Project Overview and Feasibility Studies - Identification, Market and Demand Analysis, Project Cost Estimate, Financial Appraisal; Project Scheduling - Project Scheduling, Introduction to PERT and CPM, Critical Path Calculation, Precedence Relationship, Difference between PERT and CPM, Float Calculation and its importance, Cost reduction by Crashing of activity.	8
2	Resource Scheduling, Cost Control and Project management Features :- Cost Control and Scheduling - Project Cost Control (PERT/Cost), Resource Scheduling & Resource Levelling; Project Management Features - Risk Analysis, Project Control, Project Audit and Project Termination.	8
3	Agile Project Management :- Agile Project Management - Introduction, Agile Principles, Agile methodologies, Relationship between Agile Scrum, Lean, DevOps and IT Service Management (ITIL); Other Agile Methodologies - Introduction to	9

	XP, FDD, DSDM, Crystal.	
4	Scrum and DevOps in project management :- Scrum - Various terminologies used in Scrum (Sprint, product backlog, sprint backlog, sprint review, retro perspective), various roles (Roles in Scrum), Best practices of Scrum, Case Study; DevOps - Overview and its Components, Containerization Using Docker, Managing Source Code and Automating Builds, Automated Testing and Test-Driven Development, Continuous Integration, Configuration Management, Continuous Deployment, Automated Monitoring, Case Study.	11

Course Assessment Method
(CIE: 40 marks, ESE: 60 marks)

Continuous Internal Evaluation Marks (CIE):

Attendance	Assignment/ Microproject	Internal Examination-1 (Written)	Internal Examination- 2 (Written)	Total
5	15	10	10	40

End Semester Examination Marks (ESE)

In Part A, all questions need to be answered and in Part B, each student can choose any one full question out of two questions

Part A	Part B	Total
<ul style="list-style-type: none"> ● 2 Questions from each module. ● Total of 8 Questions, each carrying 3 marks <p style="text-align: center;">(8x3 =24 marks)</p>	<ul style="list-style-type: none"> ● Each question carries 9 marks. ● Two questions will be given from each module, out of which 1 question should be answered. ● Each question can have a maximum of 3 subdivisions. <p style="text-align: center;">(4x9 = 36 marks)</p>	60

Course Outcomes (COs)

At the end of the course students should be able to:

Course Outcome		Bloom's Knowledge Level (KL)
CO1	Understand how effectively plan, and schedule projects within time and cost targets	K2
CO2	Apply project estimation and evaluation techniques to real world problem	K3
CO3	Discuss different Agile Project Methodologies	K2
CO4	Apply various SCRUM practices in project management.	K3
CO5	Demonstrate the techniques used in DevOps.	K3

Note: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create

CO-PO Mapping Table:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3								2	2
CO2	3	3	3								2	2
CO3	3	3	3								2	2
CO4	3	3	3								2	2
CO5	3	3	3								2	2

Text Books

Sl. No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
1	Succeeding with Agile: Software Development Using Scrum	Mike Cohn	Addison-Wesley	1/e, 2009

Reference Books				
Sl. No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
1	Agile Product Management with Scrum	Roman Pichler	Addison-Wesley	1/e, 2010
2	Agile Project Management with Scrum	Ken Schwaber	Microsoft Press	1/e, 2004

Video Links (NPTEL, SWAYAM...)	
No.	Link ID
1	https://archive.nptel.ac.in/noc/courses/noc19/SEM2/noc19-cs70/
2	https://www.youtube.com/watch?v=TPEgII1OiuU
3	https://www.youtube.com/watch?v=7Bxdds2siU8