Syllabus:

DS4116PE: SOFTWARE PROJECT MANAGEMENT
(Professional Elective - V)

IV-I:CSE(DS)								
Course Code	**Category**	**Hours/Weak**			**Credits**	**Max Marks**		
DS4116PE	**Professional Elective - V**	**L**	**T**	**P**	**C**	**CIE**	**SEE**	**Total**
		3	0	0	3	30	70	100
Contact Classes:45	**Tutorial classes: 15**	**Practical classes: Nill**				**Total Classes:60**		
Prerequisites: None								

Course Objectives:

- To acquire knowledge on software process management
- To acquire managerial skills for software project development
- To understand software economics

Course Outcomes:

- Gain knowledge of software economics, phases in the life cycle of software development, project organization, project control and process instrumentation
- Analyze the major and minor milestones, artifacts and metrics from management and technical perspective
- Design and develop software product using conventional and modern principles of software project management

UNIT - I

Software Process Maturity
Software maturity Framework, Principles of Software Process Change, Software Process Assessment, The Initial Process, The Repeatable Process, The Defined Process, The Managed Process, The Optimizing Process.
Process Reference Models
Capability Maturity Model (CMM), CMMI, PCMM, PSP, TSP).

UNIT - II

Software Project Management Renaissance Conventional Software Management, Evolution of Software Economics, Improving Software Economics, The old way and the new way. Life-Cycle Phases and Process artifacts Engineering and Production stages, inception phase, elaboration phase, construction phase, transition phase, artifact sets, management artifacts, engineering artifacts and pragmatic artifacts, model-based software architectures.

UNIT - III

Workflows and Checkpoints of process
Software process workflows, Iteration workflows, Major milestones,
minor milestones, periodic status assessments.
Process Planning
Work breakdown structures, Planning guidelines, cost and schedule
estimating process, iteration planning process, Pragmatic planning.

UNIT - IV

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.

UNIT - V

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

TEXT BOOKS:

1. Managing the Software Process, Watts S. Humphrey, Pearson
   Education
2. Software Project Management, Walker Royce, Pearson Education

REFERENCE BOOKS:

1. An Introduction to the Team Software Process, Watts S. Humphrey,
   Pearson Education, 2000
2. Process Improvement essentials, James R. Persse, O'Reilly, 2006
3. Software Project Management, Bob Hughes & Mike Cotterell, fourth
   edition, TMH, 2006
4. Applied Software Project Management, Andrew Stellman & Jennifer
   Greene, O'Reilly, 2006.
5. Head First PMP, Jennifer Greene & Andrew Stellman, O'Reilly, 2007
6. Software Engineering Project Management, Richard H.
   Thayer & Edward Yourdon,2nd edition, Wiley India, 2004.
7. Agile Project Management, Jim Highsmith, Pearson education, 2004.