PCH112 PROJECT ENGINEERING AND MANAGEMENT

L	T	P	Cr
3	1	0	3.5

Course Objective:
To understand the principles associated with effective project management and application of these principles in avoiding common difficulties associated with project management.

Introduction: Foundations of project management, Project life cost analysis, Project environment, Project selection, Project proposal, Project scope, Work breakdown Structure.

Networks: Scheduling, Critical path method, Program evaluation and review technique, Planning and scheduling of activity networks, Assumptions in PERT modeling, Time-cost trade-offs, Linear programming and network flow formulations, PERT/COST accounting, Scheduling with limited resources, Resource planning, Resource allocation, Project schedule compression, Project scheduling software, Precedence diagrams, Decision CPM, Generalized activity networks, GERT.

Projects: Estimation of project costs, Earned value analysis, Monitoring project progress, Project appraisal and selection, Recent trends in project management.

Course learning outcomes (CLOs):

The students will be able to

1. acquaint with the project management skills
2. use CPM and PERT methods in effective project management
3. carry out resource planning and project scheduling
4. perform project costing and adopt latest trends in project management

Recommended Books:

1. *Dunn, S.C., Project Engineering, Skinner (Anthony) Management Limited (1990).*
2. *Ernest, E., and Ludwig, E. E., Applied Project Engineering and Management, Gulf Pub. (1988).*
3. *Frederick, L., and Blanchard, F. L., Engineering Project Management, M. Dekker (1990).*
4. *Sinha, A.K., and Sinha, R., Project Engineering and Management, Vikas Pub. (1983).*
5. *Nigel, J., and Smith, N. J., Engineering Project Management, Wiley-Blackwell (2002).*
6. *Kenneth, K., and Humphreys, J., Cost and Optimization Engineering, McGraw-Hill (1991).*
7. *Peters, M.S., Timmerhaus, K.D., and West, R.E., Plant Design and Economics for Chemical Engineers, McGraw-Hill Education (2003).*

Evaluation Scheme:

S. No.	Evaluation Elements	Weightage (%)
1.	MST	30
2.	EST	45
3.	Sessional (may include Assignments/Projects/Tutorials/Quizes/Lab Evaluations)	25