

CE 15067: PROJECT MANAGEMENT (3-1-0) CR-04

Module-I

(10 Hours)

Characteristics of projects, Definition and objectives of Project Management, Stages of Project Management, Project Planning Process, Establishing Project organization. Work definition: Defining work content, Time Estimation Method, Project Cost Estimation and budgeting, Project Risk Management.

Module-II

(10 Hours)

Project scheduling and Planning Tools: Work Breakdown structure, LRC, Gantt charts, CPM/PERT Networks. Developing Project Plan (Baseline), Project cash flow analysis, Project scheduling with resource Constraints: Resource Leveling and Resource Allocation.

Specific methodologies for planning: Critical Path Method (CPM); Precedence Diagramming Method (PDM); Program Evaluation and Review Technique (PERT); Graphical Evaluation and Review Technique (GERT); Queue - Graphical Evaluation and Review Technique (GERT); Simulation Language for Alternative Modelling (SLAM); Dynamic Planning and Control Methodology (DPM); Critical Chain Planning; Resource Loading.

Module-III

(10 Hours)

Time Cost Tradeoff: Crashing Heuristic. Project Implementation: Project Monitoring and Control with PERT/Cost, Contract Management, Project Procurement Management; Post Project Analysis. life-cycle and post-mortem analysis.

Module-IV

(10 Hours)

Computers applications in Project Management, Such as Microsoft® Project, Primavera Project Planner®, Primavera® Monte Carlo, Crystal Ball® and ProChain® are available to the project manager for deterministic and probabilistic planning. In this course we will use the following: Primavera® P3 — for deterministic time and resource scheduling; Primavera® Monte Carlo — for probabilistic time and resource scheduling; Primavera® Expedition — for documenting multiple and complex projects; Pro Chain® — for scheduling with the critical chain method; Crystal Ball® — for risk analysis; Vensim® — for system dynamics analysis

Text Book

1. Shtub, Bard and Globerson, Project Management: Engineering, Technology, and Implementation, PH Inc.
2. Lock, Gower, Project Management Handbook.

References:

1. Cleland and King, VNR Project Management Handbook.
2. Wiest and Levy, Management guide to PERT/CPM, PHI.
3. Horald Kerzner, Project Management: A Systemic Approach to Planning, Scheduling and Controlling, CBS Publishers, 2002.
4. S. Choudhury, Project Scheduling and Monitoring in Practice.
5. P. K. Joy, Total Project Management: The Indian Context, Macmillan India Ltd.