

**Subject : Construction Project
Management**

Sem -8th

Sub Code-15AR813

Objective

To equip students with a practical approach to implement building projects, basic knowledge about construction industry, project management techniques needed for managing and coordinating building projects in a professional manner.

Module 1

INTRODUCTION

Introduction to Construction Industry-Significance, objectives and functions, stakeholders, roles, responsibilities and functional relationships;

Construction projects – objectives and lifecycle, existing construction practices & project management systems; Project scale.

Project Team, organization, roles, responsibilities, Management Ethics (human aspects)in construction projects, Labour welfare, applicable labour legislations.

Module 2

PROJECT PLANNING

Concepts of project planning, scheduling & controlling.

Management Techniques-Planning for Construction Projects: Principles, objectives, advantages of planning, stages of planning;

Scheduling: Definition, advantages, methods of scheduling: Bar chart, Milestone chart;

Controlling, Work Break-down Structure (WBS)

Module 3

PROJECT SCHEDULING AND RESOURCES MANAGEMENT

Project Management through Networks-Introduction, objectives, advantages, terms and definitions, types of networks, rules for drawing a network;

Introduction to PERT, CPM, difference between PERT and CPM, Network analysis – forward and backward passes, finding critical path;

Methods of material/resource management- Project time reduction and optimization, resource levelling & resource allocation.

Module 4

PROJECT MONITORING AND CONTROL

Construction equipment types, characteristics & applications, Quality tests for construction material and processes, Quality control inspections.

Site organization, Project progress tracking.

Finance and Risk management - Financial analysis of projects, Project direct and indirect costs. Crashing Project Schedules, its impact on time, cost and quality. Safety in Construction Projects.

Reference

1. Punmia, B. C., and Khandelwal, K. K. (2006). Project planning and control with PERT and CPM. New Delhi: Laxmi Publications.
2. Wiest, J. D., and Levy, F. K. (1982). A Management Guide to PERT/CPM. New Delhi: Prentice Hall of India.
3. Chandra, P., Projects: Planning, Analysis, Selection, Financing, Implementation and Review, McGraw Hill Education (India) Private Limited.
4. Mukhopadhyay, S.P., (1974), Project Management for Architect's and Civil Engineers, IIT, Kharagpur.
5. Callahan, M. T., Quackenbush, D. G., & Rowings, J. E. (1992). Construction Project Scheduling. McGraw-Hill.
6. Chitkara, K. K. (2004). Construction Project Management: Planning, Scheduling and Controlling. Tata McGraw-Hill Education.
7. O'Brien, J. J., and Plotnick, F. L. (2009). CPM in Construction Management. McGraw-Hill Professional.
8. National building code of India, Indian standard institution, New-Delhi, 1970