

B.TECH CIVIL ENGINEERING – R22

Project Planning and Management by Primavera

SEMESTER III

L/T/P/C

3/0/0/S

Course Duration: 30–40 Hours

Prerequisites: Basic knowledge of project management concepts

Software: Primavera P6 Professional

UNIT – I: Introduction to Project Planning and Primavera P6

- Fundamentals of Project Management
- Project Life Cycle and Project Organization
- Overview of Planning, Scheduling, Monitoring, and Control
- Introduction to Primavera P6 Interface and Features
- Enterprise Project Structure (EPS)
- Organizational Breakdown Structure (OBS)
- Creating and Managing Projects in Primavera
- Calendar Creation and Management

Practical: Installation, navigation, project creation, EPS and OBS setup.

UNIT – II: Work Breakdown Structure and Activity Planning

- Concept and Importance of Work Breakdown Structure (WBS)
- Creating WBS in Primavera
- Defining Activities and Activity Types
- Activity Codes and User Defined Fields
- Activity Relationships and Dependencies
- Leads and Lags
- Milestones and Constraints
- Project Documentation and Notes

Practical: Creating WBS, adding activities, defining relationships and milestones.

UNIT – III: Scheduling and Resource Management

- Critical Path Method (CPM)
- Forward and Backward Pass Calculations
- Float Analysis and Critical Activities
- Resource Creation and Assignment
- Resource Calendars
- Resource Loading and Histograms
- Resource Leveling Techniques
- Cost Accounts and Budget Allocation

Practical: Schedule generation, critical path identification, resource assignment and leveling.

UNIT – IV: Project Monitoring and Control

- Baseline Creation and Management
- Updating Project Progress
- Tracking Actual Start and Finish Dates
- Earned Value Management (EVM)
- Schedule Variance and Cost Variance Analysis
- Performance Indicators
- Managing Delays and Schedule Recovery
- Progress Measurement Techniques

UNIT – V: Reporting, Risk Management and Project Closure

- Risk Identification and Assessment
- Risk Mitigation Planning
- Project Dashboards and Layouts
- Custom Reports and Filters
- Gantt Charts and S-Curves
- Exporting Reports to Excel and PDF
- Project Documentation and Closure Procedures
- Case Studies on Construction and Infrastructure Projects

Practical: Generating reports, dashboards, S-curves, and final project presentation.

Course Outcomes (COs)

After completing this course, students will be able to:

1. Understand project planning and scheduling concepts using Primavera P6.
2. Develop project schedules using WBS, activities, and network relationships.
3. Allocate and manage project resources and costs effectively.
4. Monitor project performance through tracking and earned value analysis.
5. Generate professional reports and manage project risks for successful project completion.