

PLANNING AND MANAGEMENT OF CONSTRUCTION PROJECTS

Paper Code: ETCE-404

Paper: Planning and Management of Construction Projects

L	T/P	C
3	1	4

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objective:** This course is aimed at providing both basic and advanced exposure to Construction Project Management so as to enable the manager/ consultant of tomorrow to successfully plan and complete sophisticated projects within the constraints of capital, time and other resources. The course also deals with basic concept of network analysis, O and M works, contract Management etc.*

UNIT-I

Master Plan and Building By laws: Objectives and necessity of Master Plan, Land use features, Building Bylaws, Function of Local Authority. Provision of Building Regulation, Salient features of Land Acquisition, etc

Project Planning: Scheduling, Controlling, Methods of Planning and Programming, Schedules for Labour, Materials and Equipment, Graphical Presentation of Earthwork.

Work Accounts: Muster roll, measurement book, cash book imprest, temporary advance, classification of stores, stock, receipt and issue of stores, authority of use, and materials at site account, Master Test Register-Site Order Book, Dismantle Register, Inspection Register, Hindrance Register, Building Register surplus and shortage, A Sample Case Study.

[T1,T2][No. of Hours: 12]

UNIT-II

Network and Network Analysis: CPM, Activity time estimate, earliest event time, Latest allowable occurrence time, Start and finish time of activity, Float, Critical activities and critical path, updating crashing.

Development of PERT network, Network rules, Graphical guidelines for networks, Work breakdown structure, Time estimates and computations using PERT.

[T1,T2][No. of Hours: 12]

UNIT-III

Contract Management: Scope of work, Detailed Estimate [approved plan], Administrative approval/Estimate Sanction, Notice inviting tenders and its types, Tender, earnest money deposit, security deposit, types of contracts, Essentials of legally valid contract, Contract between Engineer and Employers, Appointment and authority of Engineer for execution of civil construction works, Category of contractors.

Public Works Administration: C.P.W.D. Organization set up, system of accounts, classes of works in PWD, Estimates, Delhi Scheduled Rules [CPWD], Cost adjustment indices sub head, sub works, administrative approval, technical sanction, possession of funds, expenditure sanction, Various methods of executing works.

[T1,T2][No. of Hours: 11]

UNIT-IV

Project Monitoring using PRIMAVERA or MS Project

Construction Equipment: Equipment for excavation and transportation of earth, hauling equipment, hoisting equipment, pile driving equipment, Equipment for pumping water, Dozers and cranes, Scraper, Batching plants, RMC equipment etc.

[T1,T2][No. of Hours: 10]

Text Books:

[T1] Managing Construction Projects by Graham M. Winch, John Wiley and Sons, 2010

[T2] Construction project management: planning and scheduling by Henry F. W. Naylor -Delmar Pub, 1995

References Books:

[R1] Peurifoy-Construction Planning, equipment and methods, Tata Mc Graw Hill

[R2] Joseph Frein- Handbook of Construction Management and Organization, Springer

[R3] CPWD Manual of Works.

[R4] G. K. Hirashan -Fundamentals of Town Planning , Dhanpat Rai Publication

[R5] Essentials of Construction Project Management by Martin Loosemore UNSW press – 2003

- [R6] Punmia and Khandelwal, "PERT and CPM", Laxmi Publications, New Delhi.
- [R7] Hinze J., "Construction Contracts", Tata McGraw Hill Education (P) Ltd., New Delhi. (for Unit-IV)
- [R8] CPWD, "Delhi Schedule of Rates", New Delhi.