

CE 434: CONSTRUCTION TECHNOLOGY AND MANAGEMENT (3-0-0: 3)

Introduction

Construction as industry and its challenges, role of construction management, methods of construction managements, and basic requirements of construction management: learning structures.

Life Cycle of Construction Projects

Examples of real projects and its learning requirements, stages of awarding contract, types of contract, contract documents, arbitration and settlement of disputes, contract laws and handling of contracts, commissioning of project, principles of estimation, principles of general and detailed specifications.

Introduction to Network Based Project Management Techniques

Defining activities and their interdependence, drawing of network, time and resource estimations, use of network as scheduling techniques, use of network as control techniques for project monitoring.

Construction Technology

Construction of superstructure and substructures, various construction methods: excavation, earth-moving, drilling, blasting, dewatering, foundation, finishing items, painting, flooring, brick works. Examples of construction of structures such as buildings, bridges, roads, tunnels, industrial structures, quality management and construction safety, use of information technology in construction industries, automation in construction industry: a general discussion.

Text Books:

1. F. Harris, R. McCaffer and F. Edum-Fotwe, "Modern Construction Management", Blackwell Publishing.
2. C. J. Schexnayder and R. E. Mayo, "Construction Management Fundamentals", McGraw Hill.

References:

1. J. Singh, "Heavy Construction-Planning, Equipment and Methods", Oxford & IBH Publishing Co. Pvt.
2. R. L. Peurifoy and C. J. Schexnayder, "Construction Planning, Equipment, and Methods", Tata McGraw-Hill.
3. D. S. Barrie and B. C. Paulson, "Professional Construction Management: Including C.M., Design-construct, and General Contracting", McGraw-Hill International Edition.
4. L. S. Srinath, "PERT and CPM Principles and Applications", Affiliated East-West Press Pvt Ltd.
5. D. G. Carmichael, "Construction Engineering Networks: Techniques, Planning and Management", Ellis Horwood Publishers Chichester.
6. K. K. Chitkara, "Construction Project Management: Planning, Scheduling and Controlling", Tata McGraw-Hill.