

GUJARAT TECHNOLOGICAL UNIVERSITY

CIVIL (CONSTRUCTION ENGINEERING AND MANAGEMENT)(14)

CONSTRUCTION PROJECT MANAGEMENT

SUBJECT CODE: 2711401

M.E. 1st SEMESTER

Type of course: Core

Prerequisite: --

Rationale:--

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks						Total Marks
L	T	P		Theory Marks		Practical Marks				
			ESE (E)	PA (M)	PA (V)		PA (I)			
					ESE	OEP	PA	RP		
4	2#	0	5	70	30	30	0	10	10	150

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1	Project Management Basic Concept: Introduction. Over view of Construction Project & Project Management. Indian Construction industry and their problems of Cost overruns & Time overruns. Phases of construction project and life cycle of project. Project Appraisal & Cost-benefit analysis. Detailed Project Report (DPR), Project Maturity, Success and Failures. Concepts of BOT, BOLT, BOOT etc.	12	20
2	Project Organizations: Introduction. Formal and informal organization. Forms of Project organizations. Requirements of a project organization. Types and selection of organizations.	9	15
3	Project Planning, Scheduling and Control Management: Introduction. WBS: Necessity, Methodology and Types. Project planning and scheduling techniques: CPM, PERT & GERT, LOB & LADDER Networks, Precedence Networks, Critical Chain Network. Time & Resource Planning. Management Software.	21	35
4	Project Cost Management: Introduction. Cost Planning, Cost Budgeting and Cost Control. Estimation of project cost. Cost appraisal of project. Project cash-flow analysis and planning. Value engineering in cost validation.	9	15
5	Project Quality Control: Introduction. Quality Control: QA-QC Model, Quality Assurance: TQM, ISO Standards, CONQUAS and AUDIT. Cost of Quality.	9	15

Reference Books:

1. A Management Guide to PERT/CPM by J.D. Weist & F.K. Levy – Prentice Halls of India Pvt. Ltd.

2. Engineering Project Management by Parammeshwar P. Iyer – Wheeler Publishing, New Delhi.
3. Construction Project Management by K. K. Chitkara, - Tata McGraw-Hill, New Delhi.
4. Total Project Management by P. K. Joy – Macmillan India Ltd, New Delhi.
5. Construction Project Management by Kumar Neeraj Jha - Pearson, New Delhi.
6. Total Construction Project Management by George J. Ritz – McGraw-Hill, New York.
7. Planning Techniques for Construction Network Scheduling by J.D. Stevens - McGraw
8. Construction Engineering & Management by Dr. S. Seetharaman - Umesh Publications, Delhi.
9. Construction Planning and Technology , Gupta Rajiv, CBS Publication, Delhi
10. Fundamentals Network Analysis & Synthesis, Pandey S.K., S.Chand Publication, Delhi

Course Outcome:

After learning the course the students able to carry out total project management of construction projects.

They are also able to:

1. Carry out Project Appraisal & Prepare Detailed Project Report.
2. Carry out Cost-benefit analysis of Infrastructure projects, Building projects etc.
3. Analyze the Maturity, Success and failure of projects.
4. Prepare suitable organization structure for proposed project.
5. Prepare WBS, establish interrelationships and construct the project network.
6. Apply knowledge of Network analysis methods in Project management.
7. Carry out total project management.
8. Prepare Project cash-flow analysis and planning.
9. Learn project quality control and implement quality control through different models and techniques.
10. Use computer software like viz. M S Project, Primavera etc. in project management.