



GUJARAT TECHNOLOGICAL UNIVERSITY

CIVIL (Construction Engineering & Management)

Master of Engineering

Subject Code: 3731409

Semester – III

Subject Name: Construction Equipment and Management

Type of Course: Elective

Prerequisite: NIL

Rationale:

This course introduce various construction equipment and study the efficient utilization of the same using scientific principles.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	0	3	70	30	0	0	100

Course Contents

Sr.No.	Topics	Hrs.
1	Equipment Management: Identification –Planning - Equipment Management in Projects - operation and guideline for selection and deployment of equipment - Maintenance Management – Replacement - Cost Control of Equipment – Depreciation Analysis, Methods of calculation of depreciation- Safety Management.	08
2	Earthwork Equipment: Fundamentals of Earth Work Operations - Earth Moving operations-Types of Earthwork Equipment - Tractors, Motor Graders, Scrapers, Front end Loaders, Earth Movers – capacity calculations.	08
3	Pumps Used In Construction : Equipment for Dredging, Trenching, Tunneling, Drilling and Blasting. Equipment for compaction - Types of pumps used in Construction - Equipment for Grouting – Pile Driving Equipment- Equipment of Erection and demolition.	08
4	Forklifts Equipment: Forklifts and related equipment - Portable Material Bins - Conveyors – equipment used in demolition – Chain Pulley Blocks.	08
5	Screening Equipment: Crushers – Feeders - Screening Equipment - Batching and Mixing Equipment – Hauling equipment - Pouring and Pumping Equipment – Ready mixed concrete carriers.	07
	Total	39

Reference Book(s)



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- Peurifoy, R.L., Ledbetter, W.B. and Schexnayder. C, “Construction Planning Equipment and Methods”, McGraw Hill. Singapore.
- Sharma S.C. “Construction Equipment and Management”, Khanna Publishers, Delhi.
- Deodhar, S.V. “Construction Equipment and Job Planning”, Khanna Publishers Delhi.
- Mahesh Varma .Dr. “Construction Equipment and its planning and application”, Metropolitan Book Company, New Delhi.

Course Outcome

Sr. No.	CO statement	Marks % weightage
CO-1	To introduce various construction equipment for earthwork, material handling and other miscellaneous purposes.	50%
CO-2	To study the working of the equipment mentioned above and apply scientific principles for effectively utilizing them.	50%

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	25	20	20	15	10

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above

List of Open Source Software/learning website: www.nptel.ac.in/courses/