

Devi Ahilya University, Indore, India Institute of Engineering & Technology			
Subject code and name	Type	L-T-P	Credits
VLR8G6 : Construction Techniques	L	T	P
	GE	3-1-0	4

COURSE CONTENTS

UNIT –I

Formwork and Temporary structures : Scaffolding – Definition, Component, parts, Types of scaffolding, Shoring – Definition, Types, Raking, flying and dead shores, Underpinning: definition, Purpose, Types, Pit Methods, Pile Method. Form work: Definition – Materials used Requirements of a good formwork , Form work for column, RC beams and RC slab.

UNIT - II

Sub Structure Construction : Box Jacking -pipe jacking - diaphragm walls types and methods - piling techniques - driving well and caisson – sheet piles – construction procedures and applications-cofferdam - methods -cable anchoring and grouting - laying operations for built up offshore system - shoring for deep cutting - well points - dewatering and stand by plant equipment for underground open excavation - Trenchless Technology.

UNIT - III

Common Strengthening Techniques

Mud Jacking grout through slab foundation - micro piling for strengthening floor and shallow profile pipeline laying - protecting sheet piles, screw anchors - sub grade water proofing -under pinning , crack stabilizing techniques ,advanced techniques. Explosives and its classification. Sequence in demolition and dismantling.

UNIT - IV

Construction of Earthquake Resistant Building Planning of earthquake resistant building, Construction of walls – provision of corner reinforcement, construction of beams and columns, Base isolation. Expansion and construction, joints in buildings,

UNIT- V

Repair And Rehabilitation Of Structures: Diagonising the cause and damage- identification of different types of structural and non structural cracks – repair and rehabilitation methods for Masonry Concrete and Steel Structures. Guniting and grouting, use of epoxy and crack fills. Settlement- causes and remedial measures, plinth protection – necessity and materials used.

Books & References:

1. Mohan Rai & M.P. Jai Singh; Advance in Building Materials & Construction,.
2. S.C. Rangwala; building construction.
3. Sushil Kumar; Building Construction,

4. B.C. Punmia; Building Construction ,.
5. Roy Chudley, Roger Geeno ,”Advanced Construction Technology” Latest Edition, 2005.
6. Gahlot .P.S & Sanjay Sharma ,”Building repair and maintenance management“ , CBS Publications.2006.