

Devi Ahilya Vishwavidhyalaya, Indore, India			
Institute of Engineering & Technology			
Subject code and name	Type	L-T-P	Credits
8VLRG6 : Construction Techniques	L	T	P
	GE	3-1-0	4

Learning Objectives:

1. To give experience in the implementation of new technology concepts
2. To understand the use of form work and temporary structure.
3. To Create awareness about construction practices for sub structures under various conditions.
4. To Study process of repair and rehabilitation of structures.

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 plies, 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.

