

# GOVERNMENT POLYTECHNIC MEHAM

Discipline: - CIVIL ENGG.

Semester:-5<sup>th</sup>

Subject: - BUILDING DRAWING

Lesson plan duration:-15 weeks (From Sept 2020 to Dec 2020)

Work load: - Lectures-05

Week	Theory	
	Lecture day	Topic (Including assignment / test)
1st	1st	<b>Chapter 1st: Introduction</b> Concept of Reinforced Cement Concrete
	2nd	Reinforcement Materials
	3rd	Suitability of steel as reinforcing material
	4th	Properties of mild steel
	5th	Properties of HYSD steel
2nd	1st	Loading on structures as per IS: 875
	2nd	<b>Revision</b>
	3rd	<b>Chapter 2. Introduction to following methods of RCC design</b> Working stress method
	4th	Limit state method
	5th	<b>Numerical Practice</b>
3rd	1st	<b>Chapter 3. Shear and Development Length</b> Shear as per IS:456-2000 by working stress method
	2nd	Maximum shear stress
	3rd	Shear reinforcement
	4th	<b>Numerical Practice</b>
	5th	<b>Revision</b>
4th	1st	<b>Chapter 4. Singly Reinforced Beam (Working stress method)</b> Basic assumptions and stress strain curve
	2nd	Neutral axis, balanced reinforced beams
	3rd	Under reinforcement reinforced beams
	4th	Over reinforced beams
	5th	Moment of resistance for singly reinforced beam.
5th	1st	<b>Numerical Practice</b>
	2nd	Design of singly reinforced beam
	3rd	Reinforced beam including sketches showing reinforcement details.
	4th	<b>Revision Assignment No. 1</b> 1. Design of singly reinforced beam 2. Comparison b/w limit state & working stress method
	5th	<b>Numerical Practice</b>
6th	1st	<b>Sessional Test No. 1</b>
	2nd	<b>Chapter 5. Concept of Limit State Method</b> Definitions
	3rd	Assumptions made in limit state of collapse (flexure)
	4th	Partial factor of safety for materials

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7th	1st	Design loads
	2nd	Stress block, parameters
	3rd	<b>Revision</b>
	4th	<b>Chapter 6. Singly reinforced beam</b> Theory of singly reinforced beam
	5th	Design of singly reinforced beam by Limit State Method
8th	1st	<b>Numerical Practice</b>
	2nd	<b>Numerical Practice</b>
	3rd	<b>Chapter 7. Doubly Reinforced Beams</b> Theory of simply supported doubly reinforced rectangular beam
	4th	Design of simply supported doubly reinforced rectangular beam by Limit State Method
	5th	<b>Numerical Practice</b>
9th	1st	<b>Numerical Practice</b>
	2nd	<b>Chapter 8. Behaviour of beams</b>
	3rd	Behaviour of T beam
	4th	Behaviour of inverted T beam
	5th	Behaviour of 'L' beams
10th	1st	<b>Revision</b> <b>Assignment No. 2</b> 1. Design of doubly reinforced beam 2. Behavior of T beam & inverted T beam
	2nd	<b>Sessional Test No. 2</b>
	3rd	<b>Chapter 9. One Way Slab</b> Theory of simply supported one way slab
	4th	Design of simply supported one way slab
	5th	One way slab including sketches showing reinforcement details (plan and section) by Limit State Method..
11th	1st	<b>Numerical Practice</b>
	2nd	<b>Chapter 10. Two Way Slab</b> Theory of two-way simply supported slab with corners free to lift
	3rd	Design of two-way simply supported slab with corners free to lift
	4th	No provisions for torsional reinforcement by Limit State Method
	5th	Limit State Method including sketches showing reinforcement detail
12th	1st	<b>Numerical Practice</b>
	2nd	<b>Numerical Practice</b>
	3rd	<b>Chapter11. Axially Loaded Column</b> Definition of columns
	4th	Classification of columns
	5th	Effective length of columns
13th	1st	Specifications for longitudinal reinforcement
	2nd	Specifications for lateral reinforcement
	3rd	Design of axially loaded square short columns by Limit State

	4th	Design of axially loaded rectangular short columns by Limit State
	5th	Design of axially loaded circular short columns by Limit State
14th	1st	<b>Numerical Practice</b>
	2nd	<b>Numerical Practice</b>
	3rd	<b>Chapter 12. Prestressed Concrete</b> Methods of pre-stressing
	4th	Methods of pre-tensioning
	5th	Methods of post tensioning
15th	1st	Advantages and disadvantages of prestressing
	2nd	Losses in pre-stress
	3rd	<b>Numerical Practice</b>
	4th	<b>Revision Assignment No. 3</b> 1. Design of one way slab with limit state method 2. Design of one way slab with limit state method
	5th	<b>Sessional Test No. 3</b>

(Signature of the teacher concerned with date)