MERI College of Engineering & Technology
(MERI-CET)

Name of the Faculty : Mr. Ankit Sharma

Discipline : Civil Engineering

Semester : 4TH

Subject : SA PCC-CE-206-G

Lesson Plan Duration : 15 Weeks (From May 2021 to July 2021)

Work load (Lectures/Practical)

Per week (in hours) : Lectures-04 + 02 Lab

LECTURE PLAN

WEEK	LECTURE	TOPIC	LAB	EXPERIMENT TITLE
1st	1st	Deflection of determinate beams by Double Integration Method	1st	To verify moment area theorem regarding slope and deflection in a beam
	2nd	Deflection of determinate beams by Conjugate Beam Method		
	3rd	Deflection of determinate beams by Moment Area Methods		
	4th	Numerical Problems		
2nd	1st	Numerical Problems	2nd	To verify Maxwell's Reciprocal Theorem.
	2nd	Principle of Virtual work (Unit load method)		
	3rd	Castigliano's theorem		
	4th	Numerical Problems		
3rd	1st	Numerical Problems	3rd	Begg`s deformeter-verification of Muller Breslau principle
	2nd	Deflection of determinate pin jointed trusses and rigid jointed frames by principle of virtual work		
	3rd	Strain Energy and Castiglino's theorem.		
	4th	Numerical Problems		
4th	1st	Numerical Problems	4th	Experiment on a two – hinged arch for horizontal thrust and influence line for horizontal thrust
	2nd	Williot Mohr diagram method		
	3rd	Maxwell's laws of reciprocal theorem		
	4th	Numerical Problems		
5th	1st	Numerical Problems	5th	Analytical and experimental study of three hinged arch
	2nd	Maximum Shear Force and Bending Moment diagrams for simply supported beams carrying A Single Concentrated Load, Uniformly Distributed Load		
	3rd	Maximum Shear Force and Bending Moment		

		diagrams for simply supported beams carrying Two Concentrated Loads		
	4th	Numerical Problems		
6th	1st	Numerical Problems	6th	Experimental and analytical study of unsymmetrical bending of a cantilever beam
	2nd	Maximum Shear Force and Bending Moment diagrams for simply supported beams carrying fixed distance apart Series of Concentrated Loads		
	3rd	, Enveloping parabola, equivalent UDL for BM and SF in each of the above cases.		
	4th	Numerical Problems		
7th	1st	Numerical Problems	7th	Sway in portal frames – Demonstration
	2nd	Influence lines for reactions, BM & SF for simply supported beam and Panelled Girders		
	3rd	Influence lines for forces in trusses with top horizontal and curved both		
	4th	Numerical Problems		
8th	1st	Numerical Problems	8th	Problem Solving
	2nd	Reversal of stresses, Use of influence lines for calculating design forces due to dead load and moving live loads		
	3rd	Influence lines using Muller Breslau principle		
	4th	Numerical Problems		
9th	1st	Numerical Problems	9th	Problem Solving
	2nd	Numerical Problems		
	3rd	Determination of horizontal thrust, shear force and bending moment diagram for Two Hinged Arches		
	4th	Numerical Problems		
10th	1st	Numerical Problems	10th	Problem Solving
	2nd	Determination of horizontal thrust, shear force and bending moment diagram for Three Hinged Arches		
	3rd	Determination of horizontal thrust, shear force and bending moment diagram for Fixed Arches		
	4th	Numerical Problems		
11th	1st	Numerical Problems	11th	Problem Solving
	2nd	Elastic centre, properties of analogous column, application to beam & frames		
	3rd	Numerical Problems		
	4th	Numerical Problems		
12th	1st	Introduction of Cable and suspension Bridge uniformly loaded cables	12th	Problem Solving
	2nd	Temperature stresses, and three hinged		

		stiffening Girder		
	3rd	Numerical Problems		
	4th	Numerical Problems		
13th	1st	two hinged stiffening girder	13th	Problem Solving
	2nd	Numerical Problems		
	3rd	Numerical Problems		
	4th	Introduction to Indeterminate Structures, Determination of kinematic and static indeterminacy of beams, frames and trusses		
14th	1st	Slope Deflection and Moment Distribution Methods- Analysis of continuous beams & portal frames, Portal frames with inclined members.	14th	Problem Solving
	2nd	Slope Deflection and Moment Distribution Methods- Analysis of continuous beams & portal frames, Portal frames with inclined members.		
	3rd	Slope Deflection and Moment Distribution Methods- Analysis of continuous beams & portal frames, Portal frames with inclined members.		
	4th	Slope Deflection and Moment Distribution Methods- Analysis of continuous beams & portal frames, Portal frames with inclined members.		
15th	1st	Numerical Problems	15th	Problem Solving
	2nd	Numerical Problems		
	3rd	Numerical Problems		
	4th	Numerical Problems		