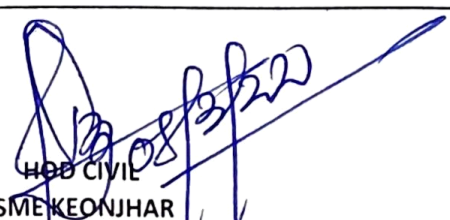


LESSON PLAN FOR SUMMER 2021-22		
STRUCTURAL DESIGN I		4TH SEMESTER (CIVIL)
FACULTY - LOPAMUDRA NAYAK		
DATE	NO. OF CLASSES	TOPICS TO BE COVERED
CHAPTER 1 -Objectives of design and detailing. State the different methods of design of		
10 . 03 . 2022	1	Objectives of design and detailing. State the different methods of design of , Introduction to reinforced concrete, R.C. sections their behavior, grades of concrete and steel. Permissible stresses, assumption in W.S.M.
14 . 03 . 2022	1	Concept of under reinforced, over reinforced and balanced sections , Advantages and disadvantages of WSM, reasons for its obsolescence , Basic numericals on WSM
Chapter 2 - Philosophy of Limit State Method		
15 . 03 . 2022	1	Definition, Advantages of LSM over WSM , Types of limit states, partial safety factors for materials strength, characteristic strength, characteristic load, design load, loading on structure as per I.S. 875
Chapter 3 - Analysis and Design of Single and Double Reinforced Sections		
16 . 03 . 2022	1	Limit state of collapse (flexure), Assumptions, Stress-Strain relationship for concrete and steel, neutral axis, stress block diagram and strain diagram for singly reinforced section
17 . 03 . 2022	1	Concept of under- reinforced, over-reinforced and limiting section, neutral axis co-efficient, limiting value of moment of resistance and limiting percentage of steel required for limiting singly R.C. section
21 . 03 . 2022	1	Determination of design constants , moment of resistance and area of steel for single reinforced rectangular section
22 . 03 . 2022	1	Numericals on single reinforced rectangular section
23 . 03 . 2022	1	Numericals on single reinforced rectangular section
24 . 03 . 2022	1	Numericals on single reinforced rectangular section
28 . 03 . 2022	1	Necessity of doubly reinforced section, design of doubly reinforced rectangular section , Numericals on Doubly reinforced section
29 . 03 . 2022	1	Numericals on doubly reinforced rectangular section
30 . 03 . 2022	1	Numericals on doubly reinforced rectangular section
31 . 03 . 2022	1	Numericals on doubly reinforced rectangular section
04 . 04 . 2022	1	Q & A Discussion
05 . 04 . 2022	1	Monthly Test
Chapter 4 - Shear , Bond and Development Length		
06 . 04 . 2022	1	Nominal shear stress in R.C. section, design shear strength of concrete, maximum shear stress, design of shear reinforcement, minimum shear reinforcement, forms of shear reinforcement
07 . 04 . 2022	1	Bond and types of bond, bond stress, check for bond stress, development length in tension and compression, anchorage value for hooks 90 degree bend and 45 degree bend standards lapping of bars, check for development length , examples
11 . 04 . 2022	1	Numerical problems on deciding whether shear reinforcement is required or not, check for adequacy of the section in shear. Design of shear reinforcement; Minimum shear reinforcement in beams
12 . 04 . 2022	1	Numerical Practice
Chapter 5 - Analysis and Design of T-Beams		
13 . 04 . 2022	1	General features, advantages, effective width of flange as per IS: 456-2000 code provisions , introduction to single reinforced T beam

18 . 04 . 2022	1	Analysis of singly reinforced T-Beam, strain diagram & stress diagram, depth of neutral axis, moment of resistance of T-beam section with neutral axis lying within the flange.
19 . 04 . 2022	1	Simple numerical problems on deciding effective flange width.
20 . 04 . 2022	1	Numerical Practice
21 . 04 . 2022	1	Numerical Practice
25 . 04 . 2022	1	Numerical Practice
26 . 04 . 2022	1	Numerical Practice
27 . 04 . 2022	1	Q & A Discussion
28 . 04 . 2022	1	Monthly Test
Chapter 6 - Analysis and Design of Slab and Stair case		
02 . 05 . 2022	1	Design of simply supported one-way slabs for flexure check for deflection control and shear.
04 . 05 . 2022	1	related numericals practice
05 . 05 . 2022	1	Design of one-way cantilever slabs and cantilevers chajjas for flexure check for deflection control and check for development length and shear
09 . 05 . 2022	1	Related numericals practice
10 . 05 . 2022	1	Design of two-way simply supported slabs for flexure with corner free to lift.
11 . 05 . 2022	1	Design of dog-legged staircase
12 . 05 . 2022	1	Numericals practice
17 . 05 . 2022	1	Detailing of reinforcement in stairs spanning longitudinally
18 . 05 . 2022	1	Numericals practice
Chapter 7 - Design of axially loaded Columns and Footings		
19 . 05 . 2022	1	Assumptions in limit state of collapse- compression , Definition and classification of columns, effective length of column.
23 . 05 . 2022	1	Specification for minimum reinforcement; cover, maximum reinforcement, number of bars in rectangular, square and circular sections, diameter and spacing of lateral ties
24 . 05 . 2022	1	Analysis and design of axially loaded square footing and rectangular footing
25 . 05 . 2022	1	Numericals practice
26 . 05 . 2022	1	Analysis and design of axially loaded circular footing
31 . 05 . 2022	1	Monthly test
01 . 06 . 2022	1	Numericals Practice
02 . 06 . 2022	1	Numericals practice
06 . 06 . 2022	1	Design of isolated square column footing of uniform thickness for flexure and shear
07 . 06 . 2022	1	Numericals practice
08 . 06 . 2022	1	revision of chapters
09 . 06 . 2022	1	Model test
Total No. Of Classes	49	

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 HOD Civil

LESSON PLAN (SUMMER-2022)		
SUBJECT - CIVIL ENGINEERING DRAWING -II (PRACTICAL-2)		
SEMESTER-4TH SEMESTER CIVIL		
FACULTY- ER.LOPAMUDRA NAYAK		
DATE	NO OF CLASSES	TOPIC TO BE COVER
CHAPTER-1-detailed drawing of culvert		
		half foundation plan and half top plan ,cross sectional elevation and longitudinal section of
10.03.2022	3	i)RCC slab culvert with right angled wing wall
14.03.2022	3	practice of RCC slab culvert
17.03.2022	3	practice of slab culvert with right angled wing wall and submission of rcc slab culvert
21.03.2022	3	ii)hume pipe culvert with splayed wing wall
24.03.2022	3	practice of hume pipe culvert
28.03.2022	3	practice of hume pipe culvert with splayed wing wall and submission of pipe culvert
CHAPTER-2-irrigation structures		
31.03.2022	3	details drawing of a vertical drop type fall from given specification
04.04.2022	3	practice of vertical drop
07.04.2022	3	practice of vertical drop
11.04.2022	3	practice of vertical drop
18.04.2022	3	practice of vertical drop
21.04.2022	3	submission of vertical drop and drawing of a drainage siphone from given specification
25.04.2022	3	practice of drainage siphone
28.04.2022	3	practice of drainage siphone
02.05.2022	3	practice of drainage siphone
05.05.2022	3	practice of drainage siphone and submission .
CHAPTER-3- plumbing and sanitary connections		
09.05.2022	3	plumbing and sanitary connections and fittings of a two roomed building
12.05.2022	3	practice of plumbing and sanitary connection and fitting
19.05.2022	3	practice and submission
CHAPTER-4-septic tank up to 50 users with soak pit		
23.05.2022	3	detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet
26.05.2022	3	practice of septic tank
02.06.2022	3	practice of septic tank
06.06.2022	3	practice of septic tank
09.06.2022	3	practice of septic tank and submission of septic tank
TOTAL	24	
 HOD CIVIL OSME KEONJHAR		