

LESSON PLAN.
ACADEMIC SESSION :-2021 (W)

Subject :- STRUCTURAL DESIGN - II , TH-2

| Teacher :- KALYANI MOHANTY | | Total Period :- 60 per Sem | | |
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| | | Theory :- 4P/week | | |
| | | SEMESTER:-5th (1ST Shift) | | |
| MONTH | DATE | DAYS | SYLLABUS TO BE COVERED | NO.OF PERIODS AVAILABLE |
| | | | Chapter-1 Introduction (5P) | |
| OCTOBER | 10/26/2021 | Tuesday | 1.1 Common steel structures, Advantages & disadvantages of steel structures. | 1 |
| | 10/28/2021 | Thursday | 1.2 Types of steel, properties of structural steel. | 1 |
| | 10/29/2021 | Friday | 1.3 Rolled steel sections, special considerations in steel design | 1 |
| NOVEMBER | 11/1/2021 | Monday | 1.4 Loads and load combinations. | 1 |
| | 11/2/2021 | Tuesday | 1.5 Structural analysis and design philosophy 1.6 Brief review of Principles of Limit State design. | 1 |
| | | | Chapter-2 Structural steel fasteners and connections (10P) | |
| | 11/5/2021 | Friday | 2.1 Bolted connection 2.1.1 Classification of bolts, advantages & diadvantages of bolted connection | 1 |
| | 11/8/2021 | Monday | 2.1.2 Different terminology, spacing and edge distance of bolt holes. | 1 |
| | 11/9/2021 | Tuesday | 2.1.3 Types of bolted connections. | 1 |
| | 11/11/2021 | Thursday | 2.1.4 Types of action of fasteners, assumptions and principles of design. | 1 |
| | 11/12/2021 | Friday | 2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors, and shear capacity of HSFG bolts. | 1 |
| | 11/15/2021 | Monday | 2.1.6 Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces) | 1 |
| | 11/16/2021 | Tuesday | 2.1.7 Efficiency of a joint. | 1 |
| | 11/18/2021 | Thursday | 2.2 Welded Connections: 2.2.1 Advantages and Disadvantages of welded connection. 2.2.2 Types of welded joints and specifications for welding | 1 |
| | 11/19/2021 | Friday | 2.2.3 Design stresses in welds. | 1 |
| | 11/22/2021 | Monday | 2.2.4 Strength of welded joints. | 1 |
| | | | 3.0 Design of steel tession member (10P) | |

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| | 11/23/2021 | Tuesday | | |
| | | | 3.1 Common shapes of tension members. | 1 |
| | 11/25/2021 | Thursday | 3.2 Maximum value of effective slenderness ratio | 1 |
| | 11/26/2021 | Friday | Problem practice | 1 |
| | 11/29/2021 | Monday | 3.4 Analysis and Design of tension members. | 1 |
| | 11/30/2021 | Tuesday | Yielding of gross cross section | 1 |
| DECEMBER | 12/2/2021 | Thursday | Rupture of critical section and the concept of block shear | 1 |
| | 12/3/2021 | Friday | Problem Practice | 1 |
| | 12/6/2021 | Monday | Problem practice | 1 |
| | 12/7/2021 | Tuesday | Problem practice | 1 |
| | 12/9/2021 | Thursday | Design problem practice | 1 |
| | | | 4.0 SLOPE AND DEFLECTION (10P) | |
| | 12/10/2021 | Friday | 4.1 Common shapes of compression members. | 1 |
| | 12/13/2021 | Monday | 4.2 Bulking class of cross sections | 1 |
| | 12/14/2021 | Tuesday | Slenderness ratio, Problems. | 1 |
| | 12/16/2021 | Thursday | 4.3 Design compressive stress | 1 |
| | 12/17/2021 | Friday | Strength of compression members | 1 |
| | 12/20/2021 | Monday | Problem practice | 1 |
| | 12/21/2021 | Tuesday | | |
| | | | 4.4 Analysis and Design of compression member | 1 |
| | 12/23/2021 | Thursday | Problem practice | 1 |
| | 12/24/2021 | Friday | Problem practice | 1 |
| | 12/27/2021 | Monday | Problem practice | 1 |
| | | | 5.0 DESIGN OF STEEL BEAMS (10P) | |
| | 12/28/2021 | Tuesday | | |
| | | 5.1 Common cross sections and their classification. | 1 | |
| 12/30/2021 | Thursday | Plastic moment capacity of sections, Moment capacity and shear resistance | 1 | |
| 12/31/2021 | Friday | 5.2 Deflection limits, | 1 | |
| JANUARY | 1/3/2022 | Monday | Web buckling and web crippling. | 1 |
| | 1/4/2022 | Tuesday | Problem practice | 1 |
| | 1/6/2022 | Thursday | Problem practice | 1 |
| | 1/7/2022 | Friday | 5.3 Design of laterally supported beams against bending and shear. | 1 |
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| 18 MORE CLASSES REQUIRED | | | | |
| | | | Problem practice | 1 |
| | | | Problem practice | 1 |
| | | | Problem practice | 1 |
| | | | 6.0 DESIGN OF TUBULAR STEEL STRUCTURES (6P) | |
| | | | 6.1 Round tubular sections, | 1 |
| | | | permissible stresses. | 1 |
| | | | 6.2 Tubular Compression & Tension Members | 1 |
| | | | 6.3 Joints in Tubular trusses | 1 |
| | | | Problem practice | 1 |
| | | | Problem practice | 1 |
| | | | 7.0 DESIGN OF MASONRY STRUCTURES:(9P) | |
| | | | 7.1 Design consideration for masonry walls | 1 |

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| | | (a) Load bearing walls -Permissible stresses, | 1 |
| | | Slenderness ratio, Effective length, Effective height, | 1 |
| | | Effective thickness, | 1 |
| | | (b) Non-Load bearing walls | 1 |
| | | 7.2 Design consideration for masonry columns | 1 |
| | | Problem practice | 1 |
| | | Problem practice | 1 |
| | | Problem practice | 1 |

