| Discipline: Civil Engg | Semester: 5th | Name of the teaching faculty: Mrs. Thiviika Behera. |
|---|---|---|
| Subject: Structural Design - II | No. of day/ per week class allotted: 4 | Semester from date to date: 15/9/22 to 21/01/23 |
| | | No of week: 15 |
| Week | Class day | Theory |
| | | 1. Introduction: |
| 1st week | 1st | 1.1 Common Steel Structures, Advantages & disadvantages of Steel Structures. |
| | 2nd | |
| | 3rd | 1.2 Types of Steel, Properties of structral steel. |
| | 4th | 1.3 Rolled Steel section, special consideration in steel design. |
| 2nd week | 1st | 1.4 Loads and load Combinations. |
| | 2nd | 1.5 Structural analysis and design Philoshpy. |
| | 3rd | 1.6 Brief review of Principal of Limit State design. |
| | 4th | |

Signature.....

Peacock
Page No. 8
Date / /

| | | |
|---|---|---|
| 3rd | 1st | Structural Steel fasteners and Connections. |
| | 2nd | 2.1 Bolted Connections. |
| | 3rd | 2.1.1 Classification of bolts, advantages and disadvantages of bolted Connections. |
| | 4th | |
| 4th | 1st | 2.1.2 Different terminology, Spacing and edge distance of bolt holes. |
| | 2nd | |
| | 3rd | 2.1.3 Types of bolted Connections. |
| | 4th | 2.1.4 Types of action of fasteners assumptions and Principals of design. |
| 5th | 1st | |
| | 2nd | 2.1.5 Strength of plates in a joint, Strength of bearing types bolts (Shear capacity, bearing capacity), reduction factors, and Shear capacity of HSFG bolts. |
| | 3rd | |
| | 4th | |
| 6th | 1st | 2.1.6 Analysis & design of joints using bearing type of HSFG bolts (Expect eccentric load and prying forces). |
| | 2nd | |

Signature.....

Page No.
Date / /

| | |
|---|---|
| 3rd | 2.1.7 - Efficiency of a joint. |
| 4th | 2.2 - Welded Connections. |
| 1st | 2.2.1 - Advantages and Disadvantages |
| 2nd | of Welded Connections. |
| 3rd | 2.2.2 - Types of welded joints and specification for welding. |
| 4th | 2.2.3 - Design Stress in welds. |
| 1st | 2.2.4 - Strength of welded |
| 5th | joints. |
| 2nd | Design of Steel tension members |
| 3rd | 3.1 - Common Shapes of tension members. |
| 4th | 3.2 - maximum values of cross Section & Slendeness ratio. |
| 1st | 3.4 - Analysis and Design of tension |
| 9th | members (Considering Strength |
| 2nd | only and concept block Shear failure). |

Signature.....

Peacock
Page No.
Date / /

| | | |
|---|---|---|
| | 3rd | Design of Steel Compression members. |
| | 4th | 4.1 - Common Shapes of Compression members. |
| 10th | 1st | 4.2 - Bucking Class of Cross Sections - Slenderness ratio. |
| | 2nd | 4.3 - Design Compressive Stress and Strength of Compression members. |
| | 3rd | |
| | 4th | 4.4 - Analysis and design of Compressive members (axial load only) |
| | 1st | |
| 11th | | Design of steel beams |
| | 2nd | 5.1 - Common Cross Sections and their Classification. |
| | 3rd | 5.2 - Deflection limits, web bucking and web crippling. |
| | 4th | 5.3 - Design of laterally supported beams against bending and Shear. |

Signature.....

Peacock
Page No.
Date / /

| | | |
|---|---|---|
| 12th | 1st | Design of Tubular Steel Structures: |
| | 2nd | 6.1 - Round Tubular Sections, Permissible Stress : |
| | 3rd | 6.2 - Tubular Compressive & Tension members. |
| | 4th | 6.3 — Joints in Tubular truss. |
| | | Design of masonary Structures : |
| 13th | 1st | 7.1 - Design Considerations for masonary walls & Column, Load Bearing & Non-Load Bearing Walls, Permissible Stress, Slenderness Ratio, Effective Length, Height & Thickness. |
| | 2nd | |
| | 3rd | |
| 14th | | Revision |
| 15th | | |

Signature.....