**Lesson Plan**

Name of the faculty : Dheeraj Grover
Discipline : Civil Engineering
Semester : 6th Semester
Subject : Steel Structures Design

| Week | Lecture Day | Theory<br>Topic ( Including assignment/test ) |
|---|---|---|
| 1st | 1 | Properties of structural steel as per IS code |
| | | Designation of structural steel as per IS 800-2007 |
| | 2 | Riveted Connections- Types of rivets, permissible stresses in rivets |
| | | Specifications for riveted joints as per IS 800-2007. Failure of a riveted joint. |
| 2nd | 1 | Assumptions in the theory of riveted joints. Strength & Specification of riveted joints |
| | | Design of riveted joints for axially loaded members, Numerical problems and doubts |
| | 2 | Bolted and welded connections- Types of bolts and bolted joints |
| | | Specification for bolted as per IS 800-2007, Types of welds and welded joints |
| 3rd | 1 | Advantages & Disadvantages of welded joints and bolted joints |
| | | Design of fillet & butt weld, Plug and slot welds |
| | 2 | Numerical problems and doubts |
| | | Tension Members- Analysis of single angle section |
| 4th | 1 | Design of single angle section |
| | | Numerical problem on single angle section |
| | 2 | Analysis of double angle section |
| | | Design of double angle section |
| 5th | 1 | Assignment-I & Revision |
| | | Sessional Exam |
| | 2 | Numerical problems on double angle section |
| | | Riveted connection of single angle section as per IS 800-2007 |
| 6th | 1 | Numerical problems on riveted connection of single angle section |
| | | Riveted connection of double angle section as per IS 800-2007 |
| | 2 | Numerical problem on riveted connection of double angle section |
| | | Numerical problems and doubts in Tension members |
| 7th | 1 | Compression Members- Analysis of single angle section Design of single angle section |
| | | Numerical problem on single angle section |
| | 2 | Analysis of double angle section, Design of double angle section |
| | | Numerical problems on double angle section |
| 8th | 1 | Numerical problem on single and double angle section and doubts |
| | | Riveted connection of single angle section as per IS 800-2007 |
| | 2 | Numerical problems on riveted connection of single angle section |
| | | Riveted connection of double angle section as per IS 800-2007 |
| 9th | 1 | Numerical problem on riveted connection of double angle section |
| | | Numerical problems and doubts in Tension members |
| | 2 | Roof Trusses – Form of trusses, pitch of roof truss |
| | | Spacing of truss,purlins |
| 10th | 1 | Sessional Exam |
| | | Connection between purlin and roof covering |
| | 2 | Connection between purlin and principal rafter |
| | | Columns- Concept of buckling of columns |
| 11th | 1 | Effective length and slenderness ratio |
| | | Permissible stress in compression as per IS 800 for different end conditions |
| | 2 | Analysis and Design of axially loaded columns single section steel column |
| | | Beam and column connections, Types of bases |
| 12th | 1 | Frame and seated connections |
| | | Numerical problems |
| | 2 | Beams- Analysis of single section simply supported laterally restrained steel beams. |
| | | Design of single section simply supported laterally restrained steel beams. |
| 13th | 1 | Numerical problems |
| | | Introduction to plate girder |
| | 2 | Functions of various elements of a plate girder |
| | | Numerical problems |
| 14th | 1 | Fabrication of steel structure, Erection of steel structure |
| | | Masonry Structures- Design of brick column |
| | 2 | Design of wall foundations |
| | | Numerical problems |
| 15th | 1 | Assignment and Revision |
| | | Revision |
| | 2 | Sessional Exam |
| | | Revision |