**Lesson Plan**

**Name of faculty : Guest Faculty**

**Discipline : CIVIL**

**Semester : 4TH**

**Subject : DESIGN OF STEEL STRUCTURES-I**

**Lesson Plan Duration** : **15 weeks (from January, 2018 to April, 2018)**

**(Lecture/Practical) per week: : Lectures: 03 hours, Tutorials: 02hours**

 **(in hours)**

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| **WEEK** | **Lecture NO.** | **Topic** | **Practical day** | **Partical Name** |
| 1st | 1 | Load,Properties of structural steel. I.S.Rolled sections and I.S. specification ,Structural elements,steel &concrete & timber,design specification as per IS 800 | 1 | Structural drawings of various types of welded connections |
| 2 | structural layout, strength and stiffness considerations,efficiency of cross section,safety and serviceability consideration. |  |  |
| 3 | various types of connections, Riveting & bolting. |  |  |
| 2nd | 4 | Efficiency of joint, design of riveted connection  | 2 | RIVISION |
| 5 | Advantages and disadvantages of bolted connection,stresses in joint. |  |  |
| 6 | Type of welded connection,design of it subjected to axial load and eccentric loads & semi rigid connection. |  |  |
| 3rd | 7 | Introduction, types of tension members, net sectional areas, design of tension members, lug angles and splices  | 3 | Beam to column connections |
| 8 | Design of compression members ,effective length and slenderness ratio& various types of section used for column |  |  |
| 9 | Built up column & its design ,laced and battened column including the design of laced and battens. |  |  |
| 4th | 10 | design of eccentrically loaded Compression members  | 4 | framed connections |
| 11 | various types of sections used for columns |  |  |
| 12 | Introduction, types of column bases  |  |  |
| 5th | 13 | Design of slab base and gussested base | 5 | Column bases- slab base |
| 14 | design of grillage foundations  |  |  |
| 15 |  Design of slab base and gussested base for eccentrically loaded member. |  |  |
| 6th | 16 | general design criteria for beams, and  | 6 | seat connections |
| 17 | design of laterally supported  |  |  |
| 18 | Design of unsupported beams  |  |  |
| 7th | 19 | Introduction gantry girder | 7 | Gussested base foundation |
| 20 | Type of section |  |  |
| 21 |  general design criteria for beams |  |  |
| 8th | 22 | design of laterally supported beams | 8 | slab base |
| 23 |  design of unsupported beams |  |  |
| 24 | design of built up beam |  |  |
|   9th | 25 | Web buckling | 9 | Plate girder |
| 26 | Web crippling |  |  |
| 27 | Diagonal buckling |  |  |
| 10th | 28 | Various load on gantry girder | 10 | Rivet connection  |
| 29 | gantry girder specification |  |  |
| 30 | general design criteria for gantry girder |  |  |
| 11th | 31 | general design criteria for beams | 11 | Bolt connection |
| 32 | Introduction plate girder |  |  |
| 33 | Element for plate girder |  |  |
| 12th | 34 | Design step for plate girder | 12 | Roof truss.  |
| 13th | 35 | Necessity of stiffeners in plate girder | 13 | FIRST VIVA |
| 36 |  specifications, design of gantry girder |  |  |
| 37 |  various types of stiffeners  |  |  |
| 14th | 38 | web and flange splices  | 14 | grillage foundation |
| 39 | Elements of plate girder |  |  |
| 40 |  Design steps of a plate girder |  |  |
| 41 | Curtailment of flange plates |  |  |
| 15th | 42 | Design beam to column connections: | 15 | 2 VIVA |
| 43 | Introduction, design of framed and seat connection |  |  |
|  |  design of framed connection |  |  |
|  | design of seat connection |  |  |