**Lesson Plan**

**Name of faculty : Guest Faculty**

**Discipline : CIVIL**

**Semester : 4TH**

**Subject : STRUCTURAL ANALYSIS-II**

**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** |
| 1st | 1 | Introduction Statically Indeterminate Structures |
| 2 | Static Indeterminacies |
| 3 | Kinematic Indeterminacies |
| 2nd | 4 | Numerical problem |
| 5 | Castigliano's theorems |
| 6 | Strain energy method |
| 3rd | 7 | Numerical problem |
| 8 | Numerical problem |
| 9 | Analysis of frames with one or two redundant members using Castigliano's 2nd theorem. |
| 4th | 10 | Numerical problem |
| 11 | Analysis of continuous beams |
| 12 | Analysis of continuous portal frame.Analysis of continuous beams.Slope deflection Methods |
| 5th | 13 | Numerical problem |
| 14 | portal frames with inclined members. Parabolic Arches moment Distribution Methods |
| 15 | Elastic centre , Properties of analogous column Analysis of Two hinged Arches: |
| 6th | 16 | Applications to beam Bending Moment Diagram for various loadings |
| 17 | Numerical problem, |
| 18 | Numerical problem |
| 7th | 19 | Analysis of Two hinged Arches &circular Arches |
| 20 | Numerical problem |
| 21 | Temperature effects |
| 8th | 22 | Rib shortening |
| 23 | Axial thrust diagram |
| 24 | Radial Shear force diagrams |
| 9th | 25 | Numerical problem |
| 26 | Unsymmetrical Bending  Centroidal principal axes of sections Angles and Z sections. |
| 27 | Numerical problem |
| 10th | 28 | Bending stresses in beam subjected to unsymmetrical bending, |
| 29 | Numerical problem uniformly loaded cables |
| 30 | shear centre Numerical problem |
| 11th | 31 | shear centre for channel |
| 32 | **Cable and suspension Bridges:** Introduction, |
| 33 | Numerical problem |
| 12th | 34 | Slope deflection method |
| 13th | 35 | Numerical problem |
| 36 | Moment distribution method |
| 37 | Temperature stresses |
| 14th | 38 | Numerical problem |
| 39 | three hinged stiffening Girder |
| 40 | Numerical problem |
| 41 | Numerical problem |
| 15th | 42 | Bending numerical |
| 43 | two hinged stiffening Girder |
| 44 | Numerical problem |
| 45 | Numerical problem |