**PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**

**PANIPAT**

**Department of Civil Engineering**

**LESSON PLAN**

**Name: - Mr. Gaurav Kumar Subject Name: - DCS-II**

**Branch/Semester: - 7th SEM Subject Code:-CE-401A**

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Lecture No.** | **Topics to be covered** |
|  | **L-1** | Continuous Beams: Introduction and Basic assumptions, Moment of inertia Settlements, Modification of moments, maximum moments and shear |
|  | **L-2** | Beams curved in plan-analysis for torsion, Redistribution of moments for single and multi-span beams, |
|  | **L-3** | Design examples. |
|  | **L-4** | Prestressed Concrete: Basic principles, classification of prestressed members, various prestressing systems. |
|  | **L-5** | Losses in prestress, initial and final stress conditions & analysis. Design of sections for flexure and shear, load balancing concept, IS:Specifications |
|  | **L-6** | End blocks-Analysis of stresses, Magnel's method, |
|  | **L-7** | Guyon's method, Bursting and spalling stresses, |
|  | **L-8** | Design examples |
|  | **L-9** | Flat slabs and staircases:Advantages of flat slabs, general design considerations, |
|  | **L-10** | Approximate direct design method, design of flat slabs, openings in flat slab. |
|  | **L-11** | Design of various types of staircases |
|  | **L-12** | Design examples. |
|  | **L-13** | Foundations: Combined footings, raft foundation. |
|  | **L-14** | Design of pile cap and piles, under-reamed piles. |
|  | **L-15** | Design examples. |
|  | **L-16** | Water Tanks, Silos and Bunkers: Estimation of Wind and earthquake forces. |
|  | **L-17** | Design requirements, rectangular and cylindrical underground and overhead tanks, |
|  | **L-18** | Intze tanks, design considerations, design examples |
|  | **L-19** | Silos and Bunkers-Various theories, Bunkers with sloping bottoms and with high side walls, |
|  | **L-20** | Battery of bunkers, design examples. |
|  | **L-21** | Design examples. |
|  | **L-22** | Building Frames: Introduction, Member stiffnesses, Loads Analysis for vertical and lateral loads, Torsion in buildings, |
|  | **L-23** | Ductility of beams, design and detailing for ductility. |
|  | **L-24** | Design examples. |
|  | **L-25** | Yield Line Theory:Basic assumptions, Methods of analysis, yield line patterns and failure mechanisms |
|  | **L-26** | Analysis of one way and two way rectangular and non-rectangular slabs |
|  | **L-27** | Effect of top corner steel in square slabs, design examples |
|  | **L-28** | Continuous Beams: Introduction and Basic assumptions, Moment of inertia Settlements, Modification of moments, maximum moments and shear |
|  | **L-29** | Beams curved in plan-analysis for torsion, Redistribution of moments for single and multi-span beams, |
|  | **L-30** | Design examples. |
|  | **L-31** | Prestressed Concrete: Basic principles, classification of prestressed members, various prestressing systems. |
|  | **L-32** | Losses in prestress, initial and final stress conditions & analysis. Design of sections for flexure and shear, load balancing concept, IS:Specifications |
|  | **L-33** | End blocks-Analysis of stresses, Magnel's method, |
|  | **L-34** | Guyon's method, Bursting and spalling stresses, |
|  | **L-35** | Design examples |
|  | **L-36** | Flat slabs and staircases:Advantages of flat slabs, general design considerations, |
|  | **L-37** | Approximate direct design method, design of flat slabs, openings in flat slab. |
|  | **L-38** | Design of various types of staircases |
|  | **L-39** | Design examples. |
|  | **L-40** | Foundations: Combined footings, raft foundation. |
|  | **L-41** | Design of pile cap and piles, under-reamed piles. |
|  | **L-42** | Design examples. |
|  | **L-43** | Water Tanks, Silos and Bunkers: Estimation of Wind and earthquake forces. |
|  | **L-44** | Design requirements, rectangular and cylindrical underground and overhead tanks, |
|  | **L-45** | Intze tanks, design considerations, design examples |

(COURSE INCHARGE)