

Lesson Plan

Subject :- Highway Engg.

(Code) TH-4

Name of faculty:- Rajashree Sahoo

Semester :- 4th

Class allotted- 75

Branch :- Civil engg.

Discipline	Semester:-	From date:-16/01/2024 Todate:26/04/2024	Teaching Aid
Subject:	No. of days/ per week 5p/w :	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	16/01/2024 to 20/01/2024	1. Introduction 1.1 Importance of Highway transportation: importance organizations like Indian roads congress, Ministry of Surface Transport, Central Road Research Institute. 1.2 Functions of Indian Roads Congress 1.3 IRC classification of roads 1.4 Organisation of state highway department	White board & marker
2	22/01/2024 to 27/01/2024	2. Road Geometrics 2.1 Glossary of terms used in geometric and their importance, right of way, formation width, road margin, road shoulder, carriage way, side slopes, kerbs, formation level, camber and gradient	White board & marker
3	29/01/2024 to 03/02/2024	2.2 Design and average running speed, stopping and passing sight distance 2.3 Necessity of curves, horizontal and vertical curves including transition curves and super elevation, Methods of providing super – elevation	White board & marker
4	05/02/2024 to 10/02/2024	3.Road Materials 3.1 Difference types of road materials in use: soil, aggregates, and binders 3.2 Function of soil as highway Subgrade	White board & marker
5	12/02/2024 to 17/02/2024	3.3 California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance 3.4 Testing aggregates: Abrasion test, impact test, crushing strength test, water absorption test & soundness test	White board & marker
6		4. Road Pavements 4.1 Road Pavement: Flexible and rigid	White board & marker

	19/02/2024 to 24/02/2024	pavement, their merits and demerits, typical cross-sections, functions of various components Flexible pavements: 4.2 Sub-grade preparation: Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting, borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation	
7	26/02/2024 to 02/03/2024	4.3 Sub base Course: Necessity of sub base, stabilized sub base, purpose of stabilization (no designs) Types of stabilization Mechanical stabilization• Lime stabilization• Cement stabilization• Fly ash stabilization•	White board & marker
8	04/03/2024 to 09/03/2024	4.4 Base Course: Preparation of base course, Brick soling, stone soling and metalling, Water Bound Macadam and wet-mix Macadam, Bituminous constructions: Different types 4.5 Surfacing: Surface dressing• (i) Premix carpet and (ii) Semi dense carpet Bituminous concrete• Grouting• 4.6 Rigid Pavements: Concept of concrete roads as per IRC specifications	White board & marker
9	11/03/2024 to 16/03/2024	5. Hill Roads: 5.1 Introduction: Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling 5.2 Breast Walls, Retaining walls, different types of bends	White board & marker
10	18/03/2024 to 23/03/2024	6. Road Drainage: 6.1 Necessity of road drainage work, cross drainage works 6.2 Surface and sub-surface drains and storm water drains. Location, spacing and typical details of side drains, side ditches for surface drainage, intercepting drains, pipe drains in hill roads, details of drains in cutting embankment, typical cross sections.	White board & marker
11	27/03/2024	7 .Road Maintenance :	White board &

	to 30/03/2024	7.1 Common types of road failures – their causes and remedies 7.2 Maintenance of bituminous road such as patch work and resurfacing	marker
12	02/04/2024 to 06/04/2024	7.3 Maintenance of concrete roads – filling cracks, repairing joints, maintenance of shoulders (berm), maintenance of traffic control devices 7.4 Basic concept of traffic study, Traffic safety and traffic control signa	White board & marker & smart board
13	08/04/2024 to 13/04/2024	8. Construction equipments: Preliminary ideas of the following plant and equipment: 8.1 Hot mixing plant 8.2 Tipper, tractors (wheel and crawler) scraper, bulldozer, dumpers, shovels, graders, roller dragline	White board & marker
14	15/04/2024 to 20/04/2024	8.3 Asphalt mixer and tar boilers 8.4 Road pavers 8.5 Modern construction equipments for roads.	White board & marker
15	22/04/2024 ,to 26/04/2024	Revision	White board & marker & smart board

Signature of HOD

Rajashree Sahoo

Signature of faculty