

Lesson Plan

Subject:-Transportation Egg.(Th.2)

Code-CEPC203

Name of faculty: - Subhashree Jena

Semester:-3rd

Class allotted: 45Hrs

Branch: - Civil Egg.

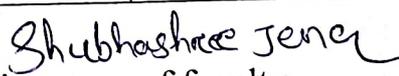
Session: 2025(W)

Discipline	Semester:-3 rd	From date:- 14/07/2025 TO 15/11/2025	Teaching Aid
Subject:	No. of days/ per week 3p/w :	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	15/07/2025 TO 19/07/2025	1. Overview of Highway Engineering: Role of transportation in the development of nation, Scope and Importance of roads in India and its' Characteristics. • Different modes of transportation – land way, waterway, airway. Merits and demerits of roadway and railway;	White board & marker
2	21/07/2025 TO 26/07/2025	• General classification of roads. • Selection and factors affecting road alignment. 2. Geometric Design of Highway: Camber: Definition, purpose, types as per IRC –• recommendations. Kerbs: Road margin, road formation, right of way.	White board & marker
3	28/07/2025 TO 02/08/2025	Design speed and various factors affecting design• speed as per IRC – recommendations. 10 Gradient: Definition, types as per IRC –• Recommendations. Sight distance (SSD): Definition, types IRC –• recommendations, simple numerical.	White board & marker
4	04/08/2025 TO 09/08/2025	Curves: Necessity, types: Horizontal, vertical curves. • Extra widening of roads: numerical examples. • Super elevation: Definition, formula for calculating • minimum and maximum Super elevation and method of providing super-elevation. Standards cross-sections of national highway in • embankment and cutting.	White board & marker
5	11/08/2025 TO 16/08/2025	3.Construction of Road Pavements : Types of road materials and their Tests – Test on aggregates- Flakiness and Elongation In- dex tests, Angularity Number test, test on Bitumen- penetration, Ductility, Flash and Fire point test and Softening point test. • Pavement – Definition, Types, Structural Components of pavement and their functions.	White board & marker & smart board
6	18/08/2025 TO 23/08/2025	• Construction of WBM road. Merits and demerits of WBM & WMM road. • Construction of Flexible pavement / Bituminous Road, Types of Bitumen and its proper- ties, Emulsion, Cutback, Tar, Terms used in BR-prime coat, tack coat, seal coat, Merits and Demerits of BR.	White board & marker
7	25/08/2025 TO 30/08/2025	• Cement concrete road -methods of construction, Alternate and Continuous Bay Method, Construction joints, filler and sealers, merits and demerits of concrete roads. Types of joints.	White board & marker

	01/09/2025 TO 06/09/2025	4. Basics of Railway Engineering: Classification of Indian Railways, zones of Indian Railways Permanent way: Ideal requirement, Components; Rail Gauge, types, factors affecting selection of a gauge.	White board & marker
9	08/09/2025 TO 13/09/2025	(Rail, Rail Joints - requirements, types. Creep of rail: causes and prevention. Sleepers - functions and Requirement, types - concrete sleepers and their density	White board & marker
10	15/09/2025 TO 20/09/2025	Ballast - function and types, suitability. Rail fixtures and fastenings – fish plate, spikes, bolts, keys, bearing plates, chairs-types of anchors and anti-creepers.	White board & marker
11	22/09/2025 TO 27/09/2025	5. Track geometrics, Construction and Maintenance: Alignment- Factors governing rail alignment. Track Cross sections – standard cross section of single and double line in cutting and embankment. Important terms-permanent land, formation width, side drains.	White board & marker
12	08/10/2025 TO 11/10/2025	• Railway Track Geometrics: Gradient, curves- types and factors affecting, grade compensation, super elevation, limits of Super elevation on curves, cant deficiency, negative cant, coning of wheel, tilting of rail.	White board & marker & smart board
13	13/10/2025 TO 18/10/2025	• Branching of Tracks, Points and crossings, Turn out-types, components, functions and inspection. Track junctions: crossovers, scissor cross over, diamond crossing, track triangle.	White board & marker
14	20/10/2025 TO 25/10/2025	Station -Purpose, requirement of railway station, important technical terms, types of railway station, factors affecting site selection for railway station.	White board & marker
15	27/10/2025 TO 01/11/2025	• Station yard: Classification- Passenger, goods, locomotive and marshalling yards. Function & drawbacks of marshalling yards.	White board & marker & smart board
16	03/11/2025 TO 08/11/2025	Track Maintenance- Necessity, Classification, Tools required for track maintenance with their functions, Organization of track maintenance, Duties of permanent way inspector, gangmate and key man.	White board & marker
17	10/11/2025 TO 15/11/2025	REVISION.....	White board & marker


Signature of HOD


Signature of faculty