

LESSON PLAN OF 5TH SEMESTER CIVIL ENGINEERING

Discipline CIVIL	Semester 5 th	Name of the Teaching Faculty: - Smt. Rajashree Nayak
Subject: - Traffic Engineering	No of Days/Per Week Class Allotted: - 03	Semester From: -01.07.2026 TO 05.11.2026 No of Weeks: - 15
Week	Class Day	Theory Topics
1 st	1 st	Fundamentals of Traffic Engineering: Definition, objects, scope. Relationship between speed, volume and density of traffic
	2 nd	Road user's characteristics- physical, mental, emotional factors. Vehicular characteristics-width, length, height, weight, speed, efficiency of breaks. •
	3 rd	Road characteristics - gradient, curve of a road, design speed, friction between road and tyre surface.
2 nd	1 st	Reaction time - factors affecting reaction time. PIEV Theory
	2 nd	Numerical related to brake efficiency, Average speed.
	3 rd	Numerical related to brake efficiency, Average speed, acceleration, velocity, concept of law of motions.
3 rd	1 st	Revision of Traffic characteristics.
	2 nd	Traffic Studies: Traffic volume count data- representation and analysis of data. Traffic engineering administration and functions.
	3 rd	Necessity of Origin and Destination study and its methods. The road user and the vehicle. Speed, journey time and delay surveys
4 th	1 st	Speed studies - Spot speed studies, and its presentation. Need and method of parking study
	2 nd	Vehicle volume counts, classification and occupancy, Origin-Destination survey
	3 rd	Parking surveys. Use of photographic techniques in traffic survey
5 th	1 st	Speed and delay study and its methods. Floating car method, The license plate or vehicle number method.
	2 nd	Interview technique and elevated observation and photographic techniques.
	3 rd	Origin and destination studies and its methods. Road side interview method, License plate method, Return post card method
6 th	1 st	Tag on car method, home interview method, Traffic flow characteristics and studies.
	2 nd	Work spot interview method, presentation of O & D data. Traffic capacity studies.
	3 rd	Road Signs and Traffic Markings: Traffic control devices –definition, necessity, types. • Road signs - definition, objects of road signs.
7 th	1 st	Regulatory Signs: Stop and give way signs, prohibitory signs, No parking and No stopping signs.
	2 nd	Speed limit and vehicle control signs, Restriction Ends sign, Compulsory Direction control signs.
	3 rd	Warning Signs and informatory signs, Traffic Signals
8 th	1 st	Advantages and disadvantages of traffic signals

	2 nd	Classification as per IRC: 67-Mandatory or Regulatory, Cautionary or warning, informatory signs, Location of cautionary or warning sign in urban and non-urban areas, Points to be considered while designing and erecting road signs.
	3 rd	Traffic markings-definition, classification, carriageway, kerb, object marking and reflector markers.
9 th	1 st	Miscellaneous traffic control aids and street furniture, Regulation of traffic
	2 nd	Road accidents-Caused and prevention, Street lighting
	3 rd	Transportation system management, Highway capacity, Scope, definitions and basis diagram of traffic flow.
10 th	1 st	Type of traffic signals, type of traffic signal system: Traffic signals- Definition, Types, Traffic control signals, pedestrian signals. • Types of traffic control signals - Fixed time, manually operated, traffic actuated signals and location of signals.
	2 nd	Compute signal time by fix time cycle, Webster's and IRC method and sketch timing diagram for each phase.
	3 rd	Traffic islands -Definition, advantages and disadvantages of providing islands. Types of traffic islands - rotary or central, channelizing or Refuge Island.
11 th	1 st	Road intersections or junctions - Definition, Types of road intersection. Intersection at grade- Types, basic requirements of good intersection at grade.
	2 nd	Grade separated intersection- advantages and disadvantages, types - flyovers- partial and full Cloverleaf pattern
	3 rd	Diamond intersection, Trumpet type, underpass
12 th	1 st	Weaving angle and weaving distance, Advantages of grade separation
	2 nd	Design of parking facilities, Traffic and transportation planning.
	3 rd	Road Accident Studies and Arboriculture: Road Accidents-Definition, types and causes for collision and non- collision accidents.
13 th	1 st	Measures to prevent road accidents. • Collision and condition diagram.
	2 nd	Street lighting -definition, necessity, types- luminaire, foot candle, lumen, factors affecting their utilization and maintenance.
	3 rd	Arboriculture- definition, objectives, factors affecting selection of type of trees.
14 th	1 st	Maintenance of trees-protection and care of road side trees.
	2 nd	Value of travel time savings, Accidents costs, Traffic congestion, traffic restraints and road pricing.
	3 rd	Nature of traffic problems in cities, public transport in cities, Intermediate public transport in Indian cities, Traffic and the environment.
15 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION

R. Nayak
28/06/26

B. Hange
28/6/26