

B. Tech Civil Engineering

Course code: Course Title	Course Structure			Pre-Requisite
CE437: Construction and Design Aspects in Transportation Engineering	L	T	P	CE 305: Transportation Engineering
	3	1	0	

Course Objective: The course aims to equip students with the knowledge and skills necessary for designing, analysing, and managing transportation infrastructure.

S. No.	Course Outcomes (CO)
CO1	To expose students to carry out traffic and transportation studies at a traffic intersection
CO2	To expose students to the concept of traffic capacity and level of service at intersections
CO3	To expose students to the design aspects of at-grade traffic intersections with and without pedestrian flow
CO4	To expose students to the knowledge of planning and design aspects of grade-separated intersections with pedestrian facilities
CO5	To expose students to the planning and design of various terminal facilities

S. No	Contents	Contact Hours
UNIT 1	Types of intersections, Principles of intersection design: basic considerations, maneuver elements, separation of conflict points, design elements, design speed, intersection curves, super elevation of curves at intersection, intersection sight distance.	12
UNIT 2	At grade intersections: types, design considerations, capacity and LOS, design of rotary and signalized intersections, vehicle actuated signals, signal co-ordination, area traffic control system (ATCS), Pedestrian facility planning at grade intersections.	10
UNIT 3	Grade separated inter sections: types, design principles, Planning and design considerations for foot over bridge and subway for pedestrian crossing at grade separated intersections.	10
UNIT 4	Terminal facilities: types, bus terminus, design principles, design elements, design and case studies of inter modal transfer facilities	10
	Total	42

REFERENCES

S. No	Name of Books/ Authors/ Publishers	Year of Publication/ Reprint
1.	Khanna, S. K., Justo, C.E.G. and Veeraragavan A. "Highway Engineering", Nem Chand & Bros., Roorkee, U.K	2014
2.	Kadiyali, L. R., "Traffic Engineering and Transportation Planning", Khanna Publishers, New Delhi	2018
3.	Kumar, R.S., "Introduction to Traffic Engineering" United Press Hyderabad	2018
4.	Sharma, S.K., "Principles, Practice and Design of Highway Engineering including Airport Pavements" S. Chand and Company, New Delhi	2012