

GUJARAT TECHNOLOGICAL UNIVERSITY

TRAFFIC AND TRANSPORT PLANNING – I

SUBJECT CODE: 1035506

B.PLAN 3RD SEMESTER

Prerequisite: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	Field work(T)	P	C	Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA(I)	
3	0	0	3	50	50	--	--	100

L- Lectures; T- Tutorial/Teacher Guided Student Activity/Field work; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment.

Content:

Sr. No.	Content	Total Hrs	% Weightage
Unit - 1	Transport System and its Development Role and importance of transport, characteristics and role of various forms of transport systems road, rail, air, water; evolution of mass transport development in India, urbanization and transport demand, motorization trends	6	10
Unit - 2	Road Capacity Concept of PCU and level of service, capacity of uninterrupted flow conditions, factors affecting capacity and level of service; capacity of rural and urban roads, capacity at intersections.	6	20
Unit - 3	Traffic Survey and Studies Traffic Volume Count, origin destination survey, speed and delay study, parking surveys, road network inventory, accident study - need, design of survey proforma, methods of conducting surveys, analysis and interpretation	12	25
Unit - 4	Transport Facility Design Roads: Road hierarchy, design control and criteria, geometric design elements, sight distance and control of access; at grade and grade separated intersections	12	25

	Parking: Parking space norms and standards, design standards for on-street and offstreet parking facilities. Pedestrian Facilities: Capacity guidelines for at-grade and grade separated facilities, design considerations Cycling Facilities: Capacity guidelines and design considerations for cycle tracks Public Transport / Para Transit Facilities: Design standards for bus stops, auto rickshaw, taxi, cycle-rickshaw stands		
Unit - 5	Traffic Management and Control Traffic Management measures; Arterial Management; Traffic Signs - principles, types and design considerations, road markings; Traffic Signals -types, optimal cycle length and signal settings, warrants; Regulation of Traffic -speed regulation, regulation of vehicle, parking regulations, Case Studies.	12	20

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks				
R Level	U Level	A Level	N Level	E Level
10	25	40	15	10

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	L.R. Kadiyali	Traffic Engineering and Transport Planning	--	Khanna Publishers
2.		Highway Capacity Manual (HCM)	--	
3.	Subhash C. Saxena	Traffic and Design	--	DhanpatRai and Sons
4.	M. Taylor, W. Young, Bansall	Understanding Traffic Systems: Data Analysis and Presentation	--	Avebury
5.	C. Buchanan	Traffic in Towns	--	HMSO
6.	OECD	Better Towns with Less Traffic	--	OECD
7.	IRC	Publications on Standards and Guidelines	--	Indian Roads Congress (IRC)
8.	UDPFI	Standards and Guidelines: Guidelines on Transportation		ITPI

9.	Huthinson, B.J.	Principles of Urban Transport Systems Planning	--	Berkley,P.A.,New York, McGraw Hill Publication, 1974
10.	Mcneill, Desmond	Urban Transport Planning in Developing Countries: D.P.U Working Paper no. 1, Alternative Approaches and Guidelines for further research	--	Bartlett School of Planning and Architecture, 1976
11.	Transportation and Town Planning	Kurt Leibbrand	--	Translated by Nigel Seymer; Leonard Hill Books, 1970
12.	Comprehensive Transport Planning	G.R. Wells		Charles Griffin and Company Ltd., London and High Wycombe

Course Outcome:

List of Exercises / Practicals:

- 1 Field visit for conducting, Technical Surveys on Traffic and Transportation

List of Assignments/Tests:

- 1 Test on Unit 1 and Unit 2.
- 2 Case study based Assignment on Unit 4 or Unit 5.

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.