

Branch Name:	Civil engineering
Program Code:	ET401
Course Name:	Traffic Engineering
Course Code:	2ET4010505
Pre-requisite Course:	---

COURSE OBJECTIVE:

The content should be taught and implemented with the aim to develop skills so that students are able to acquire following competencies:

1. To understand the issues involved in traffic flow.
2. To know and understand the tools for traffic studies.
3. To delineate various traffic control measures.
4. To understand measures for preventing accidents.
5. Determine the traffic requirements for road design after conducting the traffic surveys.
6. Prepare traffic management plan for highways and urban roads.

TEACHING AND EVALUATION SCHEME:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)			
Lecture	Tutorial	Practical	Credit	Theory		Practical	
				University Assessment	Continuous Assessment	University Assessment	Continuous assessment
03	-	02	04	60	40	20	30

DETAILS OF COURSE CONTENTS:

S.NO.	TOPIC	Total Hrs.	WEIGHTAGE
1	Introduction to Traffic Engg. and Administration : 1.1 Growth of Traffic engineering, its function and measure for operation of traffic. 1.2 Schematic flow chart of Traffic engineering in Transportation department and city.	06	14%
2	Traffic Surveys : 2.1 Types of Volume count and its purposes. 2.2 Equipment used in various count methods. 2.3 Necessity of O and D survey and its methods. 2.4 Analysis and presentation of Data 2.5 Need and methods of parking survey.	06	14%
3	Road Signs and Pavement Markings : 3.1 Importance, Necessity and General principle of traffic sign.	08	20%

	3.2 Difference types of traffic sign as per IRC Standard and requirement. 3.3 Function and types of road marking, general principles of longitudinal pavement marking, materials and colour. 3.4 Marking of various line such as Centre line, Carriage width, Reduction, Pavement Edge line, Obstruction marking, Stop line, 3.5 Pedestrian crossing & pedestrian marking and Lay out of a signalised Junction.		
4	Traffic Signals : 4.1 Traffic signals, Phasing and Advantages and disadvantages of traffic signals. 4.2 Fixed time signals, vehicle Actuated signals. 4.3 Compute signal cycle time by Fix time cycle, Trail cycle, Approximate, Webster's and IRC method and sketch timing diagram for each face. 4.4 Need and Objective for co-ordinated Types of Co-ordinated signal.	06	14%
5	Traffic control Aids, Street Furniture and Traffic Regulations : 5.1 Various traffic Aids, Road way Delineator, Hazard markers, Object markers. 5.2 Speed breakers, Rumble strips, Guard rail, and Safety barriers. 5.3 Traffic Attenuators and Litter Bins. 5.4 Need and Scope of traffic regulations, Traffic law and Regulation speed.	08	19%
6	Road Accidents: Causes and Prevention : 6.1 Objectives of road Accident study. 6.2 Causes of road Accident. 6.3 Preventive measure for accident. 6.4 Reporting and Recording of an Accident. 6.5 Collision diagram and Condition diagram. 6.6 Traffic management measure and their Influence in accident prevention. 6.7 Legislation, Law Enforcement, Education and propaganda.	08	19%

LIST OF PRACTICAL:

SR. No.	Experiment / Exercises
1	Draw flow chart of Traffic engineering organization in transportation department of city.
2	Carry out O-D survey for given area.
3	Perform Traffic volume study at given Intersection.
4	Draw various traffic signs
5	Draw the various type of Road marking
6	Compute signal cycle time by any method from given data.
7	Draw the sketches of given traffic control Aids.
8	Draw the Collision and condition diagrams
9	Innovative practices for traffic control rules and regulations.

LIST OF REFERENCES:

Sr.no.	Title	Author
1	Traffic Engg. and Transportation planning	L R Kadiyali -Khanna Publishers. Delhi
2	Traffic planning and design	S C Saxsena - Dhanpat Rai & Sons Delhi
3	Transportation Engineering Vol. I & II	V N Vazirani & S P Chaondola- Khanna Publishers. Delhi.
4	Traffic Engineering	Dr.R.P.Rethaliya

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Analyse road traffic characteristics.	1 Remembering 2 Understanding 3 Applying
CLO2	Undertake various types of road traffic studies.	1 Remembering 2 Understanding 3 Applying
CLO3	Use relevant road traffic signs, signal and markings.	1 Remembering 2 Understanding 3 Applying
CLO4	Suggest preventive measures to avoid accidents by analysing the traffic conditions at site.	2 Understanding 1 Remembering 3 Applying
CLO5	Design of traffic signals at intersections and rotary intersection.	1 Remembering 2 Understanding 3 Applying
CLO6	Aware of various traffic regulation and control devices.	1 Remembering 2 Understanding

Course Learning Outcomes	Program Outcomes(Po's)											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12
CLO1	H									L		
CLO2	M			H							H	
CLO3	M	H					I	H				H
CLO4	M				L	H			H	L		
CLO5	H	I		H			H					H
CLO6	M			I								L