

Traffic Engineering Field Studies

01TR0107

(LC)

Objective of the Course:

- To analyze the real time problems faced in day to day life while travelling from one place to another by road transportation.
- To understand the flow of the regular traffic and to recommend the better solution for compensating the problems and redesigning the transportation infrastructure.

Credit Earned: 2

Students learning outcomes:

After successful completion of the course it is expected that student will be able to,

1. Understand the flow pattern and can able to take the decision for changing the design of 4 – legged intersection.
2. Understand the flow pattern and can able to design the signal phases for saving the time consumptions at 4 – legged intersection.
3. Apply the signal coordination between any two intersections for reducing the traffic delay.
4. Analyze the traffic flow behavior and able to identify the spots of delay.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
00	00	04	02	00	00	00	25	25	50

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Turning Moment Survey of an Intersection	06
	Analysis and planning at 4-legged intersection to provide the bridge.	
2	Signal Phase Design	06
	Analysis and planning of signal phases for vehicular and pedestrian traffic flow at 4 - legged intersection.	
3	Signal Coordination	06
	Analysis and planning for signal coordination between any two intersections.	
4	Speed & Delay Studies	05
	Types of speed survey, practical approach towards speed and delay studies by	

	using various methods, comparison of results concluded by different methods, recommend the best methods out of the available.	
5	Origin & Destination Studies	05
	Types of O&D Studies, preparation of questionnaire survey format and to do survey, conclusions and recommendations based on it.	
		28

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
05%	05%	20%	25%	25%	20%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material:

Reference Book:

1. L.J.Pingnataro, Traffic Engineering; Theory and Practice. Prentice Hall, Englewood Cliffs,1973.
2. M.Wohl and B.V.Martin, Traffic System Analysis for Engineering and Planners, McGraw-Hill. New York,1983.
3. D.R.Drew, Traffic Flow Theory and Control, McGraw Hill. New York1968.
4. W.R.McShane, R.P.Roess and E.S.Prassas, Traffic Engineering, Prentice Hall, New Jersey,1990.
5. R.J.Salter, Highway Traffic Analysis and Design, McMillan, Hampshire,1989.
6. Highway Capacity Manual, Transportation Research Board, Washington D.C., 1997,2000
7. ParthoChakraborty and Animesh Das, Principles of Transportation Engineering, PHI.
8. S.C. Saxena, Traffic Planning and Design, DhanpatRai Pub., New Delhi.