SRI VENKATESWARA COLLEGE OF ENGINEERING

COURSE DELIVERY PLAN - THEORY

Department of **Civil Engineering**	LP: CE18022 Rev. No: 00 Date: **01/03/2022**
B.E/B.Tech/M.E/M.Tech : B.E. Regulation : R2018 PG Specialisation : NA Sub. Code / Sub. Name : **CE18022 Traffic Engineering & Management** Unit : **I Traffic Characteristics**	

Unit Syllabus:

Road Characteristics-Classification-Functions and standards-Road user characteristics-PIEV theory-Vehicle performance characteristics-fundamentals of traffic flow-urban traffic problems in India

Objective:

To give an overview of Traffic Engineering, various surveys to be conducted, traffic regulation, management and traffic safety.

Session No *	Topics to be covered	Ref	Teaching Aids
1	ITE Definition of Traffic Engineering, Importance of Traffic Engineering under Indian Conditions	1-Ch.1; pp.1,7	BB/PPT
2	Human Factors: Vision, Hearing	1-Ch.2; pp.11-24	BB/PPT
3	PIEV Theory	1-Ch.2; pp.11-24	BB/PPT
4	Vehicle factors	1-Ch.2; pp.11-24	BB/PPT
5	Vehicle factors	1-Ch.2; pp.11-24	BB/PPT
6	Traffic Flow Theory	1-Ch.22; pp.553-559	BB/PPT
7	Traffic Flow Theory	1-Ch.22; pp.553-559	BB/PPT
8	Urban Traffic Problems in India	1-Ch.43; pp.830-835	BB/PPT
9	Urban Traffic Problems in India	1-Ch.43; pp.830-835	BB/PPT
Content beyond syllabus covered (if any):			

* Session duration: 50 minutes

Sub. Code / Sub. Name: CE18022 TRAFFIC ENGINEERING AND MANAGEMENT

Unit : **II Traffic Surveys**

Unit Syllabus:

Traffic surveys-speed, journey time and delay surveys-vehicle volume survey-methods and interpretations-origin destination survey-methods and presentation-parking survey-methods, interpretation and presentation-statistical applications in traffic studies and traffic forecasting-level of service-concepts, application and significance.

Objective:

To give an overview of Traffic Engineering, various surveys to be conducted, traffic regulation, management and traffic safety.

Session No *	Topics to be covered	Ref	Teaching Aids
10	Objectives and brief overview of traffic surveys	1-Ch.3; pp.25-44	BB/PPT
11	Classified volume count and junction count survey		BB/PPT
12	Origin-Destination Survey		BB/PPT
13	Parking survey		BB/PPT
14	Spot speed survey		BB/PPT
15	Speed-delay survey		BB/PPT
16	Speed-delay survey		BB/PPT
17	Level of service concept		BB/PPT
18	Regression analysis – traffic forecasting		BB/PPT

Content beyond syllabus covered (if any): Speed measurement using Radar Gun

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Sub. Code / Sub. Name: CE18022 TRAFFIC ENGINEERING AND MANAGEMENT

Unit : **III Traffic Engineering Regulation**

Unit Syllabus:

Capacity of rotary intersection and design-capacity of signalized junction-traffic signals-warrants-coordinated signals-channelization-grade separated intersection

Objective:

To give an overview of Traffic Engineering, various surveys to be conducted, traffic regulation, management and traffic safety.

Session No *	Topics to be covered	Ref	Teaching Aids
19	Channelized intersection	1 – Ch.5; pg.218-248	BB/PPT
20	Principles and elements of intersection design	1 – Ch.5; pg.218-248	BB/PPT
21	Design of intersection	1 – Ch.5; pg.218-248	BB/PPT
22	Grade separation and interchange – design principles	1 – Ch.5; pg.218-248	BB/PPT
23	Rotary intersection and capacity	1 – Ch.5; pg.218-248	BB/PPT
24	Signal coordination	1 – Ch.15; pg.334-371	BB/PPT
25	Signal coordination	1 – Ch.15; pg.334-371	BB/PPT
26	Computer application in signal design	1 – Ch.15; pg.334-371	BB/PPT
27	Street furniture, street lighting	1 – Ch.16; pg.372-383	BB/PPT

Content beyond syllabus covered (if any):

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Sub. Code / Sub. Name: CE18022 TRAFFIC ENGINEERING AND MANAGEMENT

Unit : **IV Traffic Safety and Control**

Unit Syllabus:

Road accidents-causes, effects, prevention and cost-street lighting-road signs-types of sign boards-roadway markings-types of markings

Objective:

To give an overview of Traffic Engineering, various surveys to be conducted, traffic regulation, management and traffic safety.

Session No *	Topics to be covered	Ref	Teaching Aids
28	Road accidents – Causes, effect, prevention, and cost	1 – Ch.18; pg.411-483	BB/PPT
29	Road accidents – Causes, effect, prevention, and cost	1 – Ch.41; pg.810-821	BB/PPT
30	Street Lighting .	1 – Ch.13&14; pg.287-333	BB/PPT
31	Traffic and environmental Hazard	1 – Ch.46; pg.843-858	BB/PPT
32	Air and Noise Pollution	1 – Ch.46; pg.843-858	BB/PPT
33	Measure for pollution control	1 – Ch.46; pg.843-858	BB/PPT
34	Public Transport (PT) system	1 – Ch.44; pg.836-839	BB/PPT
35	Integration of PT	1 – Ch.51; pg.896-897	BB/PPT
36	Non-motorized transport	**2** – Lec.2 – UTP NPTEL	BB/PPT

Content beyond syllabus covered (if any):

Sub. Code / Sub. Name: CE18022 TRAFFIC ENGINEERING AND MANAGEMENT

Unit : **V Traffic Management**

Unit Syllabus:

One-way street system, BRTS, tidal flow operation, staggering of work hours and road pricing-parking charges, public transport subsidies-Transport System Management-Introduction to intelligent transportation systems.

Objective:

To give an overview of Traffic Engineering, various surveys to be conducted, traffic regulation, management and traffic safety.

Session No *	Topics to be covered	Ref	Teaching Aids
37	Traffic management	1 – Ch.20; pg.504-514	BB/PPT
38	Traffic management system (TMS)	1 – Ch.20; pg.504	BB/PPT
39	Travel demand management (TDM)	1 – Ch.20; pg.504	BB/PPT
40	Traffic forecasting techniques	1 – Ch.10; pg.171-176	BB/PPT
41	Restricting on turning movement, one-way streets	3 – IRC: SP 43	BB/PPT
42	Traffic segregation, traffic calming	3 – IRC: SP 43	BB/PPT
43	Traffic flow operation	1 – Ch.20; pg.504-514	BB/PPT
44	Intelligent Transportation System	1 – Ch.49; pg.887-889	BB/PPT
45	Traffic forecasting using regression	-	BB/PPT

Content beyond syllabus covered (if any): Nil

Text Books:

1. Kadiyali.L.R. "Traffic Engineering and Transport Planning", Khanna Publishers, Delhi, 2017.
2. Khanna. K and Justo C.E.G. and Veeraragavan, A. Highway Engineering, nem Chand Bros., Roorkee, 10th Edition, 2014.

References:

1. Srinivasa Kumar. Introduction to Traffic Engineering, University Press, 2018.
2. Partha Chakroborty and Animesh Das. Principles of Transportation Engineering, PHI Learning Pvt. Ltd., 2011.
3. Papacosta P.S. and Prevedouros .P.D. Transportation Engineering & Planning, third edition
4. Indian Roads Congress (IRC) specifications
5. Jotin Khisty and Kent Lall. Transportation Engineering: An Introduction, Prentice Hall, 1998.
6. Hobbs, F.D. Traffic Planning and Engineering, Peragamon Press Ltd., 1994

	Prepared by	Approved by
Signature		
Name	Dr. M. Selvakumar	Dr. R. Kumutha
Designation	Associate Professor	Head of the Department
Date	01 / 03 /2022	01 / 03 /2022
Remarks *:		
Remarks *:		

* If the same lesson plan is followed in the subsequent semester/year it should be mentioned and signed by the Faculty and the HOD