19CE4601C – TRAFFIC ENGINEERING

Course Category:	Program Elective	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisites:	19CE3306 – Surveying 19CE3502 – Highway Engineering	Continuous Evaluation:	30
		Semester End Evaluation:	70
		Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Assess the characteristics of traffic and measurement	K5
CO2	Understand the importance of Level of Service and Capacity	K2
CO3	Study in details about the parking standards and traffic control	K1
CO4	Understand the importance of traffic environment and signs	K2
CO5	Study about road marking and highway safety	K1

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	1
CO1			2										1	1
CO2						2						2	1	1
CO3					2	2							1	1
CO4						2	2					2	1	1
CO5							2					2	1	1

1- Low **2-Medium** **3-High**

Course Content

UNIT-1	**TRAFFIC CHARACTERISTICS** Basic characteristics of Traffic- Volume, Speed and Density- Relationship among Traffic parameters. **TRAFFIC MEASUREMENT** Traffic Volume Studies- Types of Volume Studies –Concept of PCU- Data Collection and Presentation – Speed Studies – Types of Speeds- Methods of Conducting speed studies	**CO1**
UNIT-2	**HIGHWAY CAPACITY** Definition of Capacity – Importance of capacity – Factors affecting Capacity- Concept of Level of Service- Different Levels of Service **TRAFFIC REGULATION** Traffic laws, Regulation of speed, Regulation of vehicles, Regulation concerning driver, Regulation concerning traffic.	**CO2**
UNIT-3	**PARKING STUDIES** Types of parking facilities – On street and Off-Street Parking Facilities- Analysis of Parking Data and parking characteristics-Multi Story Car Parking Facility **TRAFFIC CONTROL** Traffic Problems in Urban areas- Importance of Traffic Control and regulation.	**CO3**
UNIT-4	**TRAFFIC & ENVIRONMENT** Air Pollution – Measures to reduce Air Pollution due to Traffic- Noise Pollution – Measures to reduce Noise Pollution. **TRAFFIC SIGNS** Types of Traffic Signs- cautionary, Regulatory and Informative Signs- Specifications	**CO4**
UNIT-5	**ROAD MARKINGS** Pavement markings- Types of Markings – Lane markings and Object markings **HIGHWAY SAFETY** Problem of Highway Safety – Types of Road accidents- Causes – Engineering	**CO5**

	Measures to reduce Accidents- Enforcement Measures – Educational Measures- Road Safety Audit.	

Learning Resources

Text Books	1. Traffic Engineering and Transportation planning, (2nd edition) by Kadiyali, L.K., Khanna publishers, 1983. 2. Highway Engineering and Traffic Analysis, (3rdedition) by Mannering and Kilareski, John wiley Publications, 2007.
Reference Books	1. Transportation Engineering by Khisty, C. J., Prentice Hall 1986. 2. Principles of Transportation Engineering by Partha Chakroborthy, Animesh Das.Prentice Hall, India, 2004. 3. Fundamentals of Transportation Engineering by Papacostas, C.S.,Prentice Hall, India, 1987.
e-Resources& other digital material	