Course Code	Course Name	L-T-P-Credits	Year of Introduction
CE366	TRAFFIC ENGINEERING AND MANAGEMENT	3-0-0-3	2016

Pre-requisite: NIL

Course objectives:

- To set a solid and firm foundation in traffic engineering management, traffic regulation, highway capacity, design of introduction and traffic flow theory concepts**.**

Syllabus:

Scope and objective of traffic engineering and management, Traffic regulation rules, Highway capacity and introduction to 2010 manual, Design of at grade, grade separated, rotary and signals, traffic safety , influencing factors and preventive measures for traffic accidents, basic diagrams of traffic flow theory, introduction to car following and queuing**.**

Expected Outcomes:

- This course will enable students to learn advanced topics in traffic engineering and management

Text Books:

1. Kadiyali L.R. Traffic Engineering and Transport planning, Khanna Tech Publishers, 2011
2. Khanna O.P and Justo C.G; Highway Engineering, Nem Chand Publishers, 9e.
3. Donald Drew, Traffic Flow Theory Chapter 14 in Differential Equation Models, Springer, 1983

References:

1. Martin Whol, Brian V Martin , Traffic system Analysis for Engineers and Planners, McGraw Hill, NY, 1967
2. HCM 2010 (3 volume set), TRB Publications, 2010

Module	Contents	Hours	Sem. Exam Marks %
I	Traffic management – scope of traffic management measures – restrictions to turning movements – one way streets – tidal flow operations-Traffic segregation –Traffic calming- Exclusive bus lanes, Introduction to ITS	7	15
II	Regulation of traffic – Need and scope of traffic regulations- Motor Vehicle Act – Speed limit at different locations- regulation of the vehicle – regulations concerning the driver rules of the road enforcement	7	15
FIRST INTERNAL EXAMINATION			

III	Highway capacity: Its importance in transportation studies – basic, possible and practical capacity – determination of theoretical maximum capacity -passenger car units – level of service – concept in HC manual – factors affecting level of service.	**7**	**15**
IV	Design of Intersection: Design of at grade & grade separated intersection – rotary intersection – capacity of rotary intersection – traffic signals – warrants of traffic signals,-types of signals, signal coordination, design of fixed time signal –Websters approach	**7**	**15**
SECOND INTERNAL EXAMINATION			
V	Traffic Safety: causes of road accidents – collection of accident data – influence of road, the vehicle .the driver, the weather and other factors on road accident – preventive measures	**7**	**20**
VI	Traffic Flow: theory of traffic flow – scope – definition and basic diagrams of traffic flow- basic concepts of light hill – Whitham's theory – Introduction to Car 'following theory and queuing'	**7**	**20**
END SEMESTER EXAMINATION			

QUESTION PAPER PATTERN (End semester examination)

Maximum Marks :100 **Exam Duration: 3 Hrs**

Part A -Module I & II : 2 questions out of 3 questions carrying 15 marks each

Part B - Module III & IV: 2 questions out of 3 questions carrying 15 marks each

Part C - Module V & VI : 2 questions out of 3 questions carrying 20 marks each

Note : 1.Each part should have at least one question from each module

2. Each question can have a maximum of 4 subdivisions (a,b,c,d)