Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2020 (ONLINE MODE)

Course: Traffic Engineering **Semester: VIII**
Program: B Tech Civil Engineering **Time 03 hrs.**
Course Code: CEEG 467 **Max. Marks: 100**
Instructions:

SECTION A (6 X 5 Marks = 30 Marks)

S. No.		Marks	CO
Q 1	Fill in the blanks: a. The four basic objectives of traffic engineering is _____, _____, _____, and _____ movement of vehicles and pedestrians. b. The dynamic characteristics will include _____, _____, _____ and _____ of the vehicle. c. _____ and _____ are the two types of static vehicular characteristics.	**5**	**CO1**
Q 2	Fill in the blanks: a. Mandatory signage have _____shape and they should be followed to avoid _____. b. Traffic Signage should be made of _____ material to get visibility during nighttime. c. One major limitations of road marking is that it is _____. d. Double lines pavement marking indicates _____.	**5**	**CO2**
Q 3	Fill in the blanks: a. The exclusive signal type associated with pedestrian movement is called _____. b. The most modern type of traffic signal is _____. c. Three major types of traffic movement in a four-legged traffic signal is _____, _____ and _____movements.	**5**	**CO3**
Q 4	Fill in the blanks: a. There are _____ number of vehicular conflicts in a 4-legged intersection. . b. Weaving movement of traffic happens when _____.	**5**	**CO4**

	c. The major conflict area in a four-legged intersection is created due to interaction of _____ & _____ movements. d. Channelizing Island also serves as _____ Island for the benefit of the pedestrians. e. At rotary, priority should be given to traffic coming from _____ direction.		
Q 5	Fill the blanks: a. The value of Volume to Capacity ratio (V/C) for various levels of services (LOS) will range from ___ to ____. b. _____ is the best method of traffic volume count from the perspective of maximum accuracy and control. c. Desire line diagram is associated with _____survey and used to depict _____ between various traffic analysis zones. d. The acronym "EEE" stands for _____, _____ and _____. e. Four basic problems arising out of traffic in an urban area is _____, _____, _____ and _____.	**5**	**CO1**
Q 6	Fill the blanks: a. Stop Line is a type of _____ marking and Kerb Marking is a type of _____ marking. b. The two basic objectives of Arboriculture is _____ and _____. c. GIS and GPS are two major applications of _____.	**5**	**CO2**
SECTION B (5 X 10 Marks = 50 Marks)			
Q 7	Outline various aspects to be investigated during parking studies in an urban area. What is one major disadvantage of on-street parking?	**10**	**CO1**
Q 8	Define and explain key components of ITS. List down major applications of ITS and its advantages in traffic management.	**10**	**CO2**
Q 9	List down basic objectives of Traffic signals in traffic control. Differentiate between four types of traffic signal by providing at least one advantage of each signal.	**10**	**CO3**
Q 10	Mention primary importance of highway lighting. Briefly explain design factors of highway lighting.	**10**	**CO4**
Q 11	Identify four major pre-conditions or Warrants of signal Installation. Explain key provisions of Webster's Method of Signal Design and why it is called a rational method.	**10**	**CO3**

	(OR) Interpret the concept of Lost time, Effective green time and Saturation flow rate with regard to traffic movement through a signalized intersection. Define and explain the term "ALL RED" phase?		
SECTION-C (1 X 20 Marks = 20 Marks)			
Q 12	Elaborate major objectives of carrying out a traffic study. Discuss primary causes of road accidents vis-à-vis road geometry, road conditions and urban road user's characteristics. List down IRC suggestions on collection of road accident data. Discuss various stages of accident investigations. Explain various measures, which can be taken to prevent accidents. **OR** Write Short Notes on following: A. Advantages of Highway Access control in Traffic Engineering. (6) B. Comparison between Channelized and Unchanelized at-grade traffic Junction. (7 Marks) C. Definition, advantages and disadvantages of a grade-separated intersection. (7 Marks)	**20**	**CO4**