Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

M. Tech. Winter 2019 - 20 Examination

Semester: 1 **Date: 16/12/2019**
Subject Code: 203211101 **Time: 10:30am to 01:00pm**
Subject Name: Traffic Engineering **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 A) Draw sketches showing inter relationship of three macroscopic parameters of traffic flow. **(05)**
B) Explain difference between Time Headway and Space Headway. **(05)**
C) Enlist vehicle static and dynamic characteristics. **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark) **(15)**
A) Enlist methods for O D Survey along with merits and demerit of each.
B) Define (1) Parking accumulation (2) Parking Load (3) Parking Turnover (4) Parking Index (5) Parking efficiency.
C) Which are the different measures to control traffic noise?
D) Explain types of air pollutants.

Q.3 A) Find out the optimum cycle length using Webster formula from following observations taken on a fixed time two phase signalized intersection. Assume suitable data. **(07)**

Flow/Direction	North	South	East	West
Design hourly flow (PCU/hr)	900	860	940	550
Saturation Flow (PCU/Hr)	2150	2400	2650	2150

B) Explain different types of traffic signals **(08)**

OR

B) How capacity of signalized intersections is found as per HCM? **(08)**

Q.4 A) What is LOS? Give the threshold values of LOS for Signalized intersections as per IRC **(07)**

OR

A) Draw net sketches of collision and condition diagram. **(07)**

B) A rotary is proposed in a rural area at a location where two four -lane divided roads meet each other. The peak hour traffic flow is as follows: Find out the practical capacity of the rotary as per IRC guidelines. (e=10 m & w =13.5 m) **(08)**

Name of the Arm feeding traffic to the Intersection	Traffic Flow in PCUs/hour		
	Left	Straight	Right
North	375	430	300
East	460	440	370
South	375	330	360
West	390	560	355