

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Winter 2018 - 19 Examination

Semester: 1
Subject Code: 203211101
Subject Name: Traffic Engineering

Date: 10/12/2018
Time: 10:30 am to 1:00 pm
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) Explain PIEV theory (05)
 B) What are the various characteristics of vehicles? (05)
 C) Draw Condition and collision diagrams. (05)
- Q.2 Answer the following questions.** (Attempt any three) (Each five mark) (15)
 A) Write applications of spot speed survey.
 B) Explain home interview method for O D survey.
 C) How capacity of signalized intersections is found as per HCM?
 D) What is LOS? Give the threshold values of LOS for Signalized intersections as per IRC.
- 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)	870	930	770	1050
Saturation Flow (PCU/Hr)	2400	2300	2300	2200

- B) Write short note on grade separated intersections. (08)
- OR**
- B) Explain different types of traffic signs. (08)
- Q.4** A) Explain different types of air pollutants. (07)
- OR**
- A) Find out time mean speed and space mean speed from following observations. (07)
 45,38,50,62,75,46,35,55,65,77,22 (speeds are measured in KMPH)
- 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	500	350	330
East	380	425	370
South	390	340	510
West	440	350	475