GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021

Subject Code:3160615   **Date:04/12/2021**
Subject Name:Traffic Engineering and Management
Time:10:30 AM TO 01:00 PM   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Define: (1) Spot speed (2) Running speed (3) journey speed.	**03**
	(b)	Explain PIEV Theory.	**04**
	(c)	Explain collision diagram and condition diagram.	**07**
Q.2	**(a)**	What is scope of traffic engineering?	**03**
	(b)	Write causes of road accidents.	**04**
	(c)	Explain collision diagram and condition diagram.	**07**
		OR	
	(c)	The length of a road stretch used for moving observer test is 0.5 km and the speed with which the test vehicle moved is 20 km/hr. Number of vehicles encountered in the traffic stream is 107. Number of vehicles that had overtaken the test vehicle is 10 and the number of vehicles overtaken by the test vehicle is 74. Find the flow, density and average speed of the stream.	**07**
Q.3	**(a)**	Explain different types of traffic.	**03**
	(b)	Explain various off-street parking facilities.	**04**
	(c)	Describe car following theory.	**07**
		OR	
Q.3	**(a)**	Describe need for traffic forecasting.	**03**
	(b)	Ten spot speed surveys are: 63,69,40,75,72,58,65,34,38,47 Find: (1) Time mean Speed (2) Space mean Speed	**04**
	(c)	Explain queuing theory concept and its application in traffic engineering	**07**
Q.4	**(a)**	Give ill effects of parking.	**03**
	(b)	Define: Cycle, cycle length, interval, phase.	**04**
	(c)	Explain various signs as per IRC with sketch.	**07**
		OR	
Q.4	**(a)**	Explain co-ordinated control of signals.	**03**
	(b)	Give site conditions favouring grade separated intersections.	**04**
	(c)	Enlist various types of traffic signals and describe fixed time signals.	**07**
Q.5	**(a)**	What is a tidal flow operation?	**03**
	(b)	What is TSM ? Give objectives of TSM.	**04**
	(c)	Explain level of service. Describe factors affecting level of service.	**07**
		OR	
Q.5	**(a)**	Define Capacity. Describe different types of highway capacity.	**03**
	(b)	Write short note on : Rotary intersection.	**04**
	(c)	Explain Passenger Car Unit (PCV) in reference to Indo-HCM in Urban and Rural area .	**07**