GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI EXAMINATION – SUMMER 2025

Subject Code: 3160615   **Date:30-05-2025**

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 terms: PCU (2) Space mean speed (3) Traffic flow	03
	(b)	What is scope of traffic engineering?	04
	(c)	Discuss various automatic counters used for traffic volume count.	07
Q.2	**(a)**	Define terms: Traffic island (2) Traffic intersection (3) Traffic signal	03
	(b)	Explain psychological factors of road users.	04
	(c)	What are purposes of travel time and delay studies? Also explain briefly various methods are adopted for travel time and delay studies.	07
		OR	
	(c)	Describe shock wave theory can be applied in solving bottleneck Problems.	07
Q.3	**(a)**	Why traffic forecasting is necessary? Explain.	03
	(b)	Write a short note on 'Enoscope'.	04
	(c)	Explain objective and principles of fixed time signals. Also discuss Webster's method for design of fixed time signals.	07
		OR	
Q.3	**(a)**	Define terms: Basic capacity (2) Possible capacity (3) Adjusted capacity.	03
	(b)	Differentiate between Off-street parking and Peripheral parking.	04
	(c)	Describe traffic forecast based on past trends and extrapolation.	07
Q.4	**(a)**	Draw rotary intersection showing all its elements.	03
	(b)	Give objectives and necessity of signal coordination.	04
	(c)	Explain queueing theory concept and its application in traffic engineering.	07
		OR	
Q.4	**(a)**	Explain uninterrupted flow conditions define by Highway Capacity Manual (HCM).	03
	(b)	Discuss various methods of On-street parking.	04
	(c)	Define term 'Level of service'. Also discuss various factors affecting level of service.	07
Q.5	**(a)**	Give requirements of intersections at grade.	03
	(b)	Write short note on intelligent transport system (ITS).	04
	(c)	Explain causes and preventive measures for accidents.	07
		OR	
Q.5	**(a)**	Differentiate between channelised and unchannelised intersections.	03
	(b)	Explain condition diagram used for traffic accidents studies.	04
	(c)	Describe strategic management solution for traffic problems.	07

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