Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC SEM-V Examination-Nov-2011

Subject code: X50601 **Date: 19/11/2011**

Subject Name: Highway Engineering

Time: 2.30 pm -5.00 pm **Total marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain the classification of roads as per Ist Twenty Year Road Plan.	**07**
	(b)	Explain the various requirements of an ideal highway alignment in detail.	**07**
Q.2	**(a)**	Explain camber. What are the objects of camber? Discuss the factors on which the amount of camber depends.	**07**
	(b)	Calculate the stopping sight distance for a design speed of 90 kmph for (a) two way traffic on a two lane road (b) two way traffic on a single lane road. Take the total reaction time 2.5 second and the coefficient of friction=0.30.	**07**
		OR	
	(b)	List the various types of transition curve used in highways. What is an ideal transition curve? Explain.	**07**
Q.3	**(a)**	Explain HRB Soil classification systems.	**07**
	(b)	Write a short note on "Penetration Test".	**07**
		OR	
Q.3	**(a)**	Explain the CBR method of pavement design.	**07**
	(b)	Write a short note on "Impact Value".	**07**
Q.4	**(a)**	What are the requirements of a good highway drainage system?	**07**
	(b)	What are the special points to be considered in the alignment of hill road? Discuss.	**07**
		OR	
Q.4	**(a)**	Write a short note on "Street Lighting".	**07**
	(b)	Explain PPP model of Road Administration.	**07**
Q.5	**(a)**	Explain Road user characteristics.	**07**
	(b)	Explain the term traffic volume. What are the objects of carrying out traffic volume studies?	**07**
		OR	
Q.5	**(a)**	With neat sketches show various types of traffic signs. Classifying them in proper groups.	**07**
	(b)	What are the advantages and limitations of traffic rotary?	**07**

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