Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER – V • EXAMINATION – WINTER 2012

Subject code: X 50601 **Date: 11/01/2013**

Subject Name: Highway Engineering

Time: 02.30 pm - 05.00 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)	Give classification of roads according ➢ to Nagpur road plan and ➢ third road plan	07
	(b)	Define the alignment of roads. What are the requirements of ideal alignments?	07
Q.2	(a)	(i) Give classification of urban roads (ii)What are the functions of IRC?	07
	(b)	Draw the neat sketch of cross section of National highway in embankment mention dimensions also.	07
		OR	
	(b)	Calculate the length of stopping sight distance for two way traffic in a single lane road the design speed is 65kmph,reaction time of driver is 2.2 sec. coefficient of friction is 0.56 alignment is in ascending 1.8% and also descending 2.1%	07
Q.3	(a)	Give the index properties of soil.	07
	(b)	Describe test procedure of aggregate impact test draw sketch of apparatus also	07
		OR	
Q.3	(a)	Describe construction procedure of WBM roads.	07
	(b)	Explain by drawing sketch rigid and flexible pavements.	07
Q.4	(a)	Draw the sketch of hill road components.	07
	(b)	What are the desirable characteristics of road side tree plantations	07
		OR	
Q.4	(a)	Explain the road safety audits for which aspect the road safety audit is conducted?	07
Q.4	(b)	Explain surface drainage and sub surface drainage	07
Q.5	(a)	Describe in detail road user characteristics	07
	(b)	Define the terms :- (i) traffic volume (ii) running speed (iii) spot speed (iv) axle spacing (v) journey speed (vi) brake efficiency (vii) sight distance	07
		OR	
Q.5	(a)	What is the necessity of parking space in urban area? Draw the sketch of angular parking	07
	(b)	(i) draw the sketch of regulatory sign board (ii) warning sing board with dimensions	07

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