GUJARAT TECHNOLOGICAL UNIVERSITY PDDC SEMESTER V- EXAMINATION - SUMMER 2017

Subject Code:X50601Date: 29		t Code:X50601 Date: 29/4/201	/4/2017	
Su Tii Ins	bject me: (truction 1 2	 t Name: Highway Engineering D2.30PM to 05.00PM Total Marks: ons: Attempt all questions. Make suitable assumptions wherever necessary. 	70	
	3	Figures to the right indicate full marks.		
Q.1	(a) (b)	Explain the classification of roads. Explain the following (i) Jayakar Committee (ii) Indian Road Congress.	07 07	
Q.2	(a) (b)	What are the requirements of ideal alignments of road? Explain with the aid of neat sketches the methods of eliminating camber and introduction of super elevation.	07 07	
	(b)	OR The design speed of a highway is 80 kmph. There is a horizontal curve of radius 200m. Calculate the superelevation needed to maintain this speed. If the maximum superelevation limited to 0.07, Calculate the maximum allowable speed on the curve.	07	
Q.3	(a) (b)	Discuss the desirable properties of bitumen and Explain the ductility test. Estimate the extra widening required for a pavement of width 7 m on a horizontal curve of radius 250 m. If the longest wheel base of vehicle expected is 7m, design speed is 70 kmph. IRC recommended values of extra widening is 0.6 m.	07 07	
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Q.3	(a) (b)	Give the index properties of soil. Explain types of construction joints in cement concrete roads	07 07	
Q.4	(a)	Write a short note on design of flexible pavement by California Bearing Ratio	07	
	(b)	Discuss road user characteristics.	07	
Q.4	(a)	OR What are the objectives of accident studies? Explain various causes of accidents.	07	
	(b)	What is arboriculture? Explain in detail.	07	
Q.5	(a) (b)	Discuss the maintenance problems in Hill Roads. Explain any two methods of parking with sketch. OR	07 07	
Q.5	(a) (b)	Describe Sub surface drainage What are the advantages and disadvantages of traffic signals? Briefly explain various types of traffic signals.	07 07	
