Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VI (OLD).EXAMINATION - WINTER 2016

	Subje	ect Code: 160603 Date: 22/10/2016	
	•	ect Name: Railway , Bridge & Tunnel Engineering : 10:30 AM to 01:00 PM Total Marks: 70	
	insti ud	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a)	Draw the sketches of different types of rail sections and discuss their merits and demerits.	07
	(b)	What are the functions of providing sleepers in railway? Give detail comparison of CI sleepers with Concrete sleepers.	07
Q.2	2 (a)	Explain the function of ballast and different material used as ballast in railway track.	07
	(b)	Define ruling gradient, pusher gradient and momentum gradient. Also state the objectives for gradients.	07
	(b)	OR State the order of erection of suspension bridge.	07
Q.3		Explain with neat sketch commonly adopted shape of tunnels. Discuss role of Points, Crossings, Signals and Interlocking in railways.	07 07
Q.3	3 (a) (b)	OR Discuss about site selection criteria and investigation procedure for bridge construction. Discuss about geometric design of railway track.	07 07
Q. 4		What is the role of bearings in bridge? List various types of bearing with	07
	(b)	sketch. Explain with sketch tunnel ventilation. OR	07
Q.4	(a) (b)	Discuss about (i) Tunnel Lining and (ii) Lighting in Tunnels. Explain the followings with sketch: Tractive resistance, Buckling of rails, Negative super elevation.	07 07
Q.5	(a) (b)	Discuss about causes and effects of creep. Also write measures to reduce creep. Write classification of tunnels. Sketch various shapes of tunnels. OR	07 07
Q.5	(a) (b)	Discuss the necessity and effect of coning of wheel with neat sketch. Explain briefly the various requirements of a passenger station yard	07 07
