Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - WINTER 2013

Sul	bject	Code: 160603 Date: 02-12-2013	
Sul	bject	Name: Railway Bridge and Tunnel Engineering	
		2:30 pm to 05:00 pm Total Marks: 70	
Inst	ruction		
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Discuss about recent modern development for railway. What is the role of bearings in bridge? List various types of bearing with sketch.	07 07
Q.2	(a) (b)	Discuss about geometric design of railway track. Write dimensions and importance of Loading gauge and construction gauge. OR	07 07
	(b)	Explain with sketch double slip arrangement in railway track.	07
Q.3	(a)	Discuss about site selection criteria and investigation procedure for bridge construction.	07
	(b)	Discuss methods of testing and strengthening of bridges. OR	07
Q.3	(a) (b)	Write components of a bridge. Also, write types of superstructure. I. Write in brief: Economic span of bridge.	07 04
	· /	II. Write in brief: Flooring joints for bridge.	03
Q.4	(a)	Write advantages of tunnel in comparison to open cut and bridge construction.	07
	(b)	I. Write in brief: Drainage facility in tunnelII. Write in brief: Dust control in tunnels.	04 03
		OR	
Q.4	(a)	Explain the procedure adopted for tunneling in hard rock.	07
	(b)	I. Explain Portal and shaft.II. Write in brief: Alignment of a tunnel	04 03
Q.5	(a)	I. Write in brief about Flat footed rail section	03
	-	II. Write in brief about Concrete sleepers	04
	(b)	State purpose of railway station provision. List out facilities required at railway station.	07
0.5	()	OR	0.2
Q.5	(a)	I. Write in brief: Alignment of railway line.II. List various Track fittings.	03 04
	(b)	Discuss role of Points, Crossings, Signals and Interlocking in railways.	07
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