

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI • EXAMINATION – WINTER • 2014

Subject Code: 160603**Date: 01-12-2014****Subject Name: Railway Bridge and Tunnel 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.

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|------------|-----|--|-----------|
| Q.1 | (a) | What are the advantages of railways? | 03 |
| | (b) | Compare roadway with railways. | 04 |
| | (c) | Explain various types of rails with sketch. | 07 |
| Q.2 | (a) | Discuss factors affecting on the choice of gauge. | 07 |
| | (b) | Explain loading gauge and construction gauge with figure. | 07 |
| | | OR | |
| | (b) | Describe the common types of sudden rail failures. | 07 |
| Q.3 | (a) | Why are marshalling yards necessary? Describe the layout of a typical marshalling yard. | 07 |
| | (b) | Write short note on sleeper density. | 07 |
| | | OR | |
| Q.3 | (a) | Describe briefly the process of screening of ballast. | 07 |
| | (b) | Draw a sketch of Right hand turnout and loose head type switch. | 07 |
| Q.4 | (a) | Write short note on suspension bridge. | 07 |
| | (b) | Explain the methods of strengthening of bridge superstructure. | 07 |
| | | OR | |
| Q.4 | (a) | Explain with neat sketches various types of bearing used for steel bridge. | 07 |
| | (b) | Explain about ideal bridge site characteristics. | 07 |
| Q.5 | (a) | Enlist out various method of tunneling in hard rock. Explain drift method of tunneling rock. | 07 |
| | (b) | Explain the process of mechanical ventilation in tunnel. | 07 |
| | | OR | |
| Q.5 | (a) | State and explain the methods adopted for controlling dust inhalation. | 07 |
| | (b) | Discuss about (i) Tunnel lining (ii) Lighting in tunnels. | 07 |
