

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI- EXAMINATION – SUMMER 2016

Subject Code:160603

Date:09/05/2016

Subject Name:Railway , Bridge & Tunnel Engineering

Time: 10:30 AM to 01:00 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) Explain about loading and construction gauge with a neat sketch. 07
b) Why uniformity of gauge is required in a country? Explain briefly. 07
- Q 2 a) What is creep? What are the causes of creep? Explain briefly. 07
b) Write short note on railway gradients and grade compensation on curves. 07
- OR**
- b) Explain various types of rails with sketches. 07
- Q 3 a) Enlist the track fittings and fastenings used for railway track with various types. Explain any two of them briefly. 07
b) Define permanent way. What are the requirements of ideal permanent way? 07
- OR**
- Q 3 a) What are the facility requirements of a railway station? Classify the railway stations. Draw a neat sketch of layout of any one type of station. 07
b) Draw a neat sketch of simple left hand turnout and show its various component parts. Explain the working principle of the turnout. 07
- Q 4 a) Draw a neat sketch of bridge and show its components and also give importance of each component. 07
b) Briefly explain the factors affecting selection of bridge site. 07
- OR**
- Q 4 a) Write the requirements of ideal bridge bearings. Explain with neat sketches various types of bearings used for steel bridges. 07
b) Write a short note on suspension bridge with neat sketch and mention its advantages. Also mention the circumstance under which this type of bridge is recommended. 07
- Q 5 a) Enlist the various methods of tunnelling in rock. Explain any one method briefly. 07
b) Explain ventilation in tunnels in detail. 07
- OR**
- Q 5 a) Explain with neat sketch commonly adopted shape of tunnels. 07
b) Write short note on safety precautions in tunnelling. 07
