

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(OLD) – EXAMINATION – SUMMER 2019****Subject Code:160603****Date:10/05/2019****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) Define ballast. Enlist functions of ballast and requirements of ideal ballast material. **07**
- (b) Enlist various methods for measurement of creep. Explain any one in detail. **07**
- Q.2** (a) Explain Centralized Traffic Control and Automatic Traffic Control.. **07**
- (b) Enumerate various factors affecting choice of gauge. **07**
- OR**
- (b) Enlist various measures to minimize wear of rail. **07**
- Q.3** (a) What are the causes of failure of railway embankment? Suggest remedial measures to check it. **07**
- (b) Enlist advantages and disadvantages of constructing shaft in tunnel work. **07**
- OR**
- Q.3** (a) Enlist various methods of tunneling in hard rock. Explain any two in detail. **07**
- (b) Enlist various factors controlling the alignment of railway track. Explain any two in detail. **07**
- Q.4** (a) Describe different types of surveys to be carried out in case of a new railway project. **07**
- (b) Classify the bridges in various types considering various factors. **07**
- OR**
- Q.4** (a) Enlist Ideal bridge site characteristics. **07**
- (b) Enlist various types of low cost bridges. Explain any one in detail with sketches. **07**
- Q.5** (a) Enumerate different causes of accidents in tunnels. Enlist safety measures to be adopted to overcome it. **07**
- (b) Explain: Lining in tunnel. **07**
- OR**
- Q.5** (a) Write in detail the procedure of routine maintenance of railway track. **07**
- (b) Write short note on Marshalling Yard. **07**
