

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2160603

Date:03/05/2018

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) Enlist social advantages of railways. **03**
(b) Explain the factors affecting selection of railway gauge. **04**
(c) Define track alignment. Explain basic requirements of an ideal alignments. **07**
- Q.2** (a) Enlist the component parts of permanent way. **03**
(b) Write short note on coning of wheel. **04**
(c) Define creep of rail & state the effects of creep **07**
- OR**
- (c) Define ballast. Give the requirements of a good ballast. **07**
- Q.3** (a) Find out expression for sleeper density for a B.G track if 18 sleepers are used under a rail length **03**
(b) Write short note on dog spike. **04**
(c) List the purposes of railway station **07**
- OR**
- Q.3** (a) Explain grade compensation on curves **03**
(b) Enlist essential principles of interlocking **04**
(c) Explain objectives of signaling. **07**
- Q.4** (a) Define Bridge. Enlist components parts of a bridge. **03**
(b) Write short note on bridge alignment. **04**
(c) Give classification of bridge **07**
- OR**
- Q.4** (a) Write short note on rocker bearing. **03**
(b) Explain cut water & ease water **04**
(c) Write short note on suspension bridge **07**
- Q.5** (a) Write advantages of tunneling **03**
(b) Give advantages of shaft **04**
(c) Describe how you will transfer the centre line from ground to inside of tunnel. **07**
- OR**
- Q.5** (a) Classify the tunnel based on purposes. **03**
(b) What are the causes of accidents in tunnel? **04**
(c) Explain Needle beam method. **07**