

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEMESTER 1st / 2nd (OLD) EXAMINATION WINTER 2016

Subject Code: 110004

Date: 28/01/2017

Subject Name: Elements of civil engineering

Time: 10:30 AM TO 1:00 PM

Total Marks: 70

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Differentiate between plane surveying and geodetic surveying. **07**
(b) What is ranging? Explain direct ranging with a neat sketch. **07**
- Q.2** (a) Differentiate between prismatic compass and surveyors compass. **07**
(b) The consecutive readings were taken with a level and a 4 m staff on a continuously sloping ground line AB. The staff readings are 0.685, 0.890, 1.850, 2.450, 3.250 and 3.750. The reduced level of station A is 100.00 m. Calculate the reduced levels at all other points where the levelling staff is placed by HI method. Tabulate the results and apply usual checks. **07**
- Q.3** (a) State the applications of contour map. **07**
(b) Discuss the qualities of a good timber. **07**
- Q.4** (a) Draw a neat sketch of a 30 cm thick wall section through door showing all building components. **07**
(b) Explain in detail suggestions for good orientation of building. **07**
- Q.5** (a) Explain with neat sketch hydrological cycle. **07**
(b) State the benefits of rain water harvesting. **07**
- Q.6** (a) State the advantages and disadvantages of railway transport. **07**
(b) Write a short note on traffic control devices. **07**
- Q.7** (a) Explain the key role of civil engineer to the society. **07**
(b) State the objectives and applications of geographic information system. **07**
