

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– I & II (OLD) EXAMINATION – WINTER 2019****Subject Code: 110004****Date: 08/01/2020****Subject Name: Elements Of Civil Engineering****Time: 10:30 AM TO 01:00 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) What is the role of civil engineer in society? **07**
(b) Define (1) Cumulative error (2) Line of sight (3) Magnetic declination (4) Hypotenusal allowance (5) Bench mark (6) Hydrology (7) Contour interval **07**
- Q.2** (a) State various characteristics of contours in details. **07**
(b) Explain technical terms used in stair with a neat sketch. **07**
- Q.3** (a) Explain with neat sketch hydrological cycle. **07**
(b) The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 5m. The position of the instrument was changed after 3rd, 7th and 10th readings. Draw out the form of a level book and enter the above readings properly. Assume the RL of the 1st point as 50. Calculate RL of all points and apply the usual checks. Use HI method. The readings- 0.350, 0.580, 0.645, 1.850, 1.935, 2.450, 1.750, 0.360, 0.720, 1.200, 0.920, 0.630 **07**
- Q.4** (a) Explain in detail suggestions for good orientation of building. **07**
(b) A chain was tested before starting the survey and was found to be exactly 20 m. After measurement of 350m, it was again tested and was found to be 5 cm too long. After a total measurement of 600 m, again the chain was tested and was found to be 10 cm too long. Calculate actual length of the line. **07**
- Q.5** (a) Explain various aids and devices used to control, regulate and guide traffic. **07**
(b) What is building foundation? Why it is required? Give classification of the foundation. **07**
- Q.6** (a) Discuss the types of loads acting on the building **07**
(b) What is ranging? Explain direct ranging with a neat sketch. **07**
- Q.7** (a) Differentiate between load bearing structure and framed structure. **07**
(b) State the advantages and disadvantages of railway transport. **07**
