

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – III• EXAMINATION – SUMMER 2016

Subject Code: 3336203**Date: 03/06/2016****Subject Name: Surveying and Levelling****Time: 02:30 AM to 04:30 PM****Total Marks: 50****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

Q.1 Define Surveying and Levelling. Explain primary divisions of Surveying. **10**

Q.2 Explain Arrows, Pegs, Ranging rods, Offset rods and Plumb bob with figure. **10**

OR

Give methods of Ranging and explain each method with figure. **10**

Q.3 The following staff readings were observed successively with a dumpy level. **10**
 0.950, 1.215, 1.350, 1.955, 2.150, 1.720, 0.905, 1.665, 1.055 m. Calculate the Reduced Level (R.L.) of all the points by H.I. method if the R.L. of the first point was 50.000 m and the instrument was not shifted. Also apply the necessary check.

Q.4 (a) The following fore bearings and back bearings were observed with a **08**
 compass. Calculate the interior angles and apply usual check.

<u>Line</u>	<u>F.B.</u>	<u>B.B.</u>
AB	75° 00'	255° 00'
BC	125° 00'	305° 00'
CD	220° 00'	40° 00'
DA	300° 00'	120° 00'

(b) Define contour. **02**

Q.5 (a) Define the following terms: **(Any five)** **05**

1. Survey stations
2. Base line
3. Check line
4. Tie line
5. Offset
6. Field book
7. Local Attraction

(b) Give the difference between Trapezoidal rule and Simpson's rule. **05**

OR

(b) Explain the application of Geographic Information System (GIS). **05**