Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BArch- SEMESTER– 3 EXAMINATION – SUMMER 2016

Subject Code: 1035006 **Date: 20/05/2016**

Subject Name: SURVEYING AND LEVELLING

Time: 02.30PM – 04.30PM **Total Marks: 50**

Instructions:

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

Q.1 **(a)** Write different types of surveys and distinguish between plane surveying and geodetic surveying. **08**

(b) Explain Direct and Indirect ranging. **08**

Q.2 **(a)** Write difference between surveyors compass and prismatic compass. **08**

(b) A field was measured with a 20 m chain and was found to be 18.32 hectares. It was afterwards found that the chain was 0.07 m too short. Find out the true area of the field. **08**

OR

(b) Calculate the included angles A, B, and C of a triangle from the following data. **08**

Side	F.B.	B.B.
AB	45^0	225^0
BC	130^0	310^0
CA	270^0	90^0

Q.3 **(a)** Define contour. Write uses of contour and draw contour for hill and valley. **09**

(b) Following consecutive readings were taken on a continuously sloping ground at 20 m interval during levelling work. **09**

0.250, 0.570, 1.520, 2.540, 0.835, 1.350, 1.770, 2.345, 0.605, 1.270, 2.750. The instrument was shifted after fourth and eighth reading. The first reading was taken on a B.M. with R.L. = 51.00.Calculate R.L. of all points by rise and fall method.

OR

Q.3 **(a)** Draw neat sketch of planimeter. Explain method of using a planimeter. **09**

(b) Calculate the area of a figure with initial and final readings as 8.365 and 5.936 respectively. The tracing point was placed inside the figure and it was observed that the zero of the dial passed the fixed index point once in anti-clockwise direction. The multiplier and constant of the instrument are respectively 100 cm^2 and 20. **09**

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