Seat No.: _____   *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E Sem-I/II Examination June-July 2011

Subject code: 110004   Subject Name: Elements of Civil Engineering
Date: 25/06/11   Total Marks: 70   Time: 10:30 am to 1:00pm
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Explain role of civil engineer	05
	(b)	Explain fundamental principles of surveying	05
	(c)	Describe Hydrological cycle	04

Q.2 (a) The   details of observed bearings are mentioned below. find out the **07** included angles and also correct the angles if needed to be corrected .

Line	FB	BB
AB	20^0 30'	200^0 00'
BC	110^0 00'	290^0 30'
CD	195^0 00'	15^0 00'
DE	286^0 30'	106^0 00'

(b) (i) Give difference between load bearing and framed structure   (ii) enlist **07** different types of floors

OR

(b)   Give classification of different roads according to its position in national **07** network of roads .

Q.3	(a)	Enlist and Explain the different types of benchmarks	05
	(b)	The following readings are taken on Continuously falling ground with staff of 4 m ; they are 0.400, 0.765, 1.270, 2.560, 3.220, 3.950, 0.390,1.690,3.500,0.800,1.920, 2.450,3.980 . Enter the readings in the page of level book and calculate the RLs of all the points if the first reading was taken on Benchmark of 100.000 m	05
	(c)	Explain the Application of Remote sensing	04

OR

Q.3	(a)	Explain the following principles of Building Planning (i) Roominess (ii) Orientation (iii) Privacy	05
	(b)	Give the Symbol for following material in section for Building Drawing (i) Brick (ii) Stone (iii) Earth (iv) wood (v) Steel section	05
	(c)	Draw the foundation sketch for the wall having thickness of 20 cm and 30 cm	04

Q.4	(a)	Explain the properties of Bricks	05
	(b)	Enlist different types of cement and explain ingredients of ordinary Portland cement	05
	(c)	Draw sketch of R.C. C. Slab with Beam	04

OR

| Q.4 | (a) | Explain different types of watershed development techniques | 05 |
| | (b) | Explain different modes of transportation and their Importance | 05 |

(c) Explain traffic planning and its importance   **04**

Q.5   **(a)** Explain different types of Building loads   **05**

     (b) The offset from boundary of an agricultural plot are taken as below at the   **05**
interval of 20 m . Calculate the area between the base line and boundary by
Simpsons rule and trapezoidal rule The offsets are 0.24, 0.89, 1.45, 2.56,
5.67, 8.76, 7.88, 4.56,3.66,2.5 and 1.35.

     (c) Explain properties and uses of concrete   **04**

<div align="center">OR</div>

Q.5   **(a)** Explain the different types of water conveyance structures   **05**

     (b) Enlist different types of doors and draw sketch of panelled door   **05**

     (c) Describe (i) isogonic line (ii) Application of contour map   **04**

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