

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM- I / II Winter Examination-Dec.-2011****Subject code: 110004****Date: 28/12/2011****Subject Name: Elements of Civil Engineering****Time: 10.30 am -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) Enlist scheduling techniques and explain Bar Chart. **07**
 (b) Explain the impact of infrastructural development in the economy of a country **04**
 (c) A plan represents an area of 75000 m² and measures 3.00cm x 5.00cm. Find the scale of the map and R.F. **03**

- Q.2** (a) Explain the fundamental principles of surveying. **07**
 (b) Calculate the interior angles and draw the traverse: **07**

| Line | Fore Bearings |
|------|----------------------|
| AB | 70 ⁰ 30' |
| BC | 132 ⁰ 00' |
| CD | 56 ⁰ 00' |
| DE | 215 ⁰ 30' |
| EA | 310 ⁰ 00' |

- Q.3** (a) What are the key components of GIS. Describe them briefly. **07**
 (b) Following is a page of level book. Fill in the missing readings and apply the usual checks. **07**

| Station | B.S | I.S | F.S | Rise | Fall | R.L |
|---------|-------|-------|-------|-------|-------|---------|
| 1 | x | | | | | 150.000 |
| 2 | | 2.457 | | | 0.827 | x |
| 3 | | 2.400 | | 0.057 | | x |
| 4 | 2.697 | | x | | x | 148.070 |
| 5 | x | | 2.051 | 0.646 | | 148.716 |
| 6 | | 2.500 | | 1.068 | | 149.784 |
| 7 | | 2.896 | | | x | 149.388 |
| 8 | | x | | | 0.124 | x |
| 9 | | | 2.672 | 0.348 | | 149.612 |

- Q.4** (a) Discuss the various types of surface water sources. **07**
 (b) Discuss the watershed development and its significance. **07**

- Q.5** (a) Draw the neat sketch for the following (i) R.C.C lintel with chajja **07**
 Sectional plan of a ledged and battened door. **(ii) 07**
 (b) Enumerate various principles of planning and explain privacy and Roominess in detail. **07**

- Q.6** (a) Enlist the various types of gauge. What are the advantage and disadvantage of Railway? **07**
 (b) What are the advantage and disadvantage of Waterways and Airways? **07**

- Q.7** (a) Enlist various material used in building construction. Discuss properties of good bricks and timber. **07**
 (b) Enlist various types of cement. State various properties of cement **07**
