

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 (ii) Sectional plan of a ledged and battened door. 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
