

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-I & II Remedial Examination Nov/ Dec. 2010****Subject code: 110004****Subject Name: Elements of Civil Engineering****Date: 01/12/2010****Time: 10:30am- 01:00pm****Total Marks: 70****Instructions:**

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

Q.1

- (a) Explain the role of Civil Engineer **04**
- (b) Explain Fundamental Principles for the planning of the residential building in brief **05**
- (c) Discuss Classification of surveying **05**

Q.2

- (a) Describe types sizes and requirements of Bricks as civil engineering Material. Also draw sketch of a brick masonry wall **07**
- (b) Describe the dumpy level with sketch showing all the component parts and discuss its uses **07**

OR

- (b) Draw a typical cross section of a wall and show the different components and discuss them in briefly **07**

Q.3

- (a) Explain reciprocal ranging **04**
- (b) The following are the observation for bearings for a traverse . Find the internal angles and correct the bearings by the local attraction method **05**

LINE	FB	BB
AB	124 ⁰ 00'	304 ⁰ 30'
BC	268 ⁰ 30'	88 ⁰ 30'
CD	310 ⁰ 30'	132 ⁰ 30'
DA	70 ⁰ 30'	248 ⁰ 00'

- (c) Explain Geographical Information System **05**

OR**Q.3**

- (a) Draw following features Shown by contours (i)hill (ii) pond (iii) valley line (iv) Ridge line **04**
- (b) The following is an incomplete page of level book in which X indicates missing Entry .Calculate all the missing entries and complete the page of level book .also give the usual arithmetical checks **05**

Station	BS	IS	FS	Rise	Fall	RL	Remark
A	2.560					100.000	BM
B		3.540			X	X	
C		3.200		X		X	
D		2.340		X		X	
E	1.950		X	1.08		X	CP1
F		2.440			X	X	
G			3.465		X	X	

- (c) Discuss different types of tape correction by giving its formulas **05**

Q.4

- (a) Enlist different types of (i) cement and (ii) Paints **04**
- (b) The Following offsets were taken from the chain line to the compound wall at respective chainages in meters , Calculate the area of the plot covered in between chain line and compound wall by (i)Trapezoidal rule and (ii) Simpsons Rule **05**

Chainage (m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00
Offset (m)	1.5	2.5	3.5	3.0	2.8	2.2	1.4

- (c) Give list of different types of foundations and draw sketch of typical wall foundation for (i) 20 cm thick wall and (ii) 30 cm thick wall **05**

OR**Q. 4**

- (a) Enlist different types of stairs and discuss Dog- legged stair **04**
- (b) Discuss difference between plane and Geodetic Surveying **05**
- (c) Discuss Different types of ferrous metals **05**

Q.5

- (a) Enlist different types of Dams and discuss Gravity Dam in brief **04**
- (b) Discuss layout plan of a typical Industrial Building having usual units like workshop, store for raw material and finished goods, office , toilets etc. **05**
- (c) Give Classification of roads **05**

OR**Q.5**

- (a) Discuss the effect of the well developed road network on the development of the country **04**
- (b) Give classification of the Canals **05**
- (c) Describe plane scale and draw a plane scale of 1 cm =2m **05**
