

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- I<sup>st</sup> /II<sup>nd</sup> SEMESTER-EXAMINATION – MAY/JUNE - 2012****Subject code: 110004****Date: 05/06/2012****Subject Name: Elements of Civil Engineering****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks

- Q.1** (a) The Observed bearings of the traverse are given below .Find out included angles and correct angles . **6**

Line	Fore Bearing	Back Bearing
AB	12 <sup>o</sup> 30'	192 <sup>o</sup> 30'
BC	95 <sup>o</sup> 00'	275 <sup>o</sup> 00'
CD	110 <sup>o</sup> 30'	290 <sup>o</sup> 30'
DE	160 <sup>o</sup> 00'	340 <sup>o</sup> 00'
EA	310 <sup>o</sup> 30'	130 <sup>o</sup> 00'

- (b) Explain Bar Chart **4**  
 (c) Give Classification of surveying **4**

- Q.2** (a) The Incomplete page of level book is given below work out the missing Entry .Also Give usual arithmetic check **6**

Stn	B.S.	I.S.	F.S.	Rise	Fall	RL	Re mar ks
1	X					100	
2		3.2			1.955	98.045	
3		X		0.85		X	
4	2.345		1.255	1.095		99.99	
5		0.245		X		102.09	
6	X		X		2.83	99.26	
7		1.255		1.19		100.45	
8			0.505	0.75		X	

- (b) Draw a plain scale of 1cm= 2 m and show on it 12 m **4**  
 (c) Explain (i) Aspect (ii) Roominess principles of planning a building **4**

- Q.3** (a) Draw sketch of prismatic Compass and explain its component parts **5**  
 (b) Explain the characteristics of contour line **5**  
 (c) The Magnetic bearing of a line AB is N 25<sup>o</sup> 30' E Calculate the true bearing of the line if Declination is 2<sup>o</sup> E **4**

- Q.4** (a) Enlist different types of foundation and Draw sketch of 30 cm wall foundation section **5**

- (b) Calculate the area of a irregular figure from the planimeter **5**

observation given below (i) Initial reading =3.463 (ii) Final Reading =6.243 (iii) Anchor point outside (iv) Zeromark of the dial passes index in clockwise direction once (v) M =100

(c) Describe application of remote sensing **4**

**Q.5** (a) The Offset from the boundary is given below at regular interval of 30 m calculate the area enclosed by Trapezoidal and simpsons rule **5**

Chainage	30	60	90	120	150	180	210	240	270
Offset	0.51	0.72	1.29	1.35	2.08	3.53	4.55	5.01	6.24

(b) Give Symbols for (i) Material in section of Brick (ii)Material in section Concrete (iii) Exhaust Fan (iv) Electric Meter(v) culvert **5**

(c) Give the properties of Brick **4**

**Q. 6** (a) Explain Types of concrete **5**

(b) Give difference between load bearing and framed structure **5**

(c) Explain watershed Development **4**

**Q. 7** (a) Draw cross section of Road in cutting and embankment **5**

(b) Explain Hydrologic cycle **5**

(c) Explain the role of transportation in national development **4**

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