No. of Printed Pages : **3 + Drawing Sheet** **BICE-002**

06900

B.TECH. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

June, 2013

BICE-002 : SURVEYING

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **any five** questions. Assume missing data if any, use of scientific calculator is **permitted.***

1.	(a)	Define Geodetic and plane surveying.	4
	(b)	Discuss the fundamental principles of surveying.	4
	(c)	Describe the classification of surveys based upon the nature of the work.	6
2.	(a)	Differentiate between accuracy and precision.	4
	(b)	Distinguish between true and magnetic bearings.	4
	(c)	Write the four difference between azimuth and the bearing of a survey line.	4
	(d)	The distance between two stations measured with a 20 m chain, was found to be 995 m. The same distance was found to be 996 m, when 30 m chain was used. If the 20 m chain was 0.10 m short, what was the error in the 30 m chain ?	2

3. The following magnetic bearings were taken in a traverse. Find the true bearings of the survey lines if the magnetic declination was 8°30'E. 14

Line	FB	BB
AB	65°15'	239°00'
BC	130°45'	314°00'
CD	219°30'	38°30'
DA	307°45'	127°45'

4. (a) Explain with a neat sketch, the different parts of a dumpy level. 7

(b) Derive the equation for the correction for curvature and refraction. 7

5. Explain with sketches the different methods of locating a point by plane table. Discuss the relative merits of these method. 14

6. (a) What is changing face process ? 4

(b) The following traverse has been run to locate a point F midway between A and E. If the coordinates of A are (500, 500), compute (i) the independent coordinates of C, E and F, and (ii) the length and bearing of CF. 10

Side	Length (m)	Bearing
AB	400	330°00'
BC	350	0°00'
CD	350	31°11'
DE	400	319°30'

7. Write a short note on ***any four*** of the following : **4x3.5=14**

(a) Neat sketch of a page of the field book

(b) Indirect ranging

(c) Variation in declination

(d) Levelling staff

(e) Theodolite accessories

(f) Alidade in plane table survey
