No. of Printed Pages : **3 + Drawing Sheet** **BICE-004**

B. TECH IN CIVIL ENGINEERING (BTCLEVI)

00702

Term-End Examination

December, 2011

BICE-004 : ADVANCE SURVEYING

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions.*
***All** the questions are to be answered in English language only.*

1. What is the purpose of a shore line survey ? Explain how would you locate the banks of a wide river. **10**

2. To determine the elevation of A, the following observations were made in a tacheometric survey, the staff being held vertically. The instrument is fitted with an analytic lens and the value of the constant is 100. RL of BM is 158.025. **10**

Instrument Station	Height of Instrument	Staff Station	Vertical Angle	Staff Reading
0	1.440	BM	$-5°40'$	1.332,1.896, 2.460
0	1.440	CP	$8°20'$	0.780,1.263,1.746
A	1.380	CP	$-6°24'$	1.158,1.617,2.076

Calculate the reduced level of A

3. Mention the various methods of setting out a simple circular curve. Explain the method of offsets from chords produced. 10

4. Explain the summit curve and valley curve. How is the vertical curve set out by Tangents Correction Method in the field ? 10

5. (a) How are the triangulation systems classified ? Indicate the use of each system. 5

(b) Explain the term 'Strength of Figure' as applied to triangulation. 5

6. What is a total station ? Explain the fundamental quantities measured by total station. Discuss briefly the preparations required for measurement with total station 10

7. (a) From an instrument set up at A, with line of collimation at 2002.8 m the object P was sighted at an angle of depression of $4°42^1$. The horizontal distance between the object and the instrument station is 2000 m. Find RL of P. 5

(b) How do you find the distance between two points on a parallel of latitude ? 5

8. Describe with a neat sketch : 10

(a) Parallel Bar

(b) Mirror Stereoscope.

9. Discuss the following in detail : 10

(a) Resolution of a sensor.

(b) Orbit of a satellite.

10. Discuss *any two* of the following : 10

(a) Principle of stadia method

(b) Calculation of relief displacement

(c) The Celestial Latitude and Longitude System