

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

00585

**December, 2014**

**BICE-004 : ADVANCE SURVEYING**

*Time : 3 hours*

*Maximum Marks : 70*

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

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1. (a) What are the different types of tacheometric measurements ? Briefly explain the principle of each type. 7
- (b) Describe under which conditions the tacheometric survey is advantageous. 7
2. (a) Name the different methods of sounding, indicating the merits and limitations of each. 7
- (b) What is meant by 'echo sounding' ? What are its advantages over ordinary sounding ? 7

3. (a) Find the relationship between the degree of a curve and its radius. 7
- (b) A circular curve has 300 m radius and 60° deflection angle. What is its degree by (i) arc definition (ii) chord definition of standard length 30 m ? Also calculate length of the curve, tangent length, length of long chord, mid-ordinate and apex distance. 7
4. (a) Explain the term 'Strength of Figure' as applied to triangulation. 7
- (b) Name the various corrections to be applied to a measured baseline. Give expressions for their nature and magnitudes. 7
5. (a) What are the uses of Astronomical survey? 7
- (b) Explain the terms : Celestial sphere, Terrestrial sphere, and a Great circle. 7
6. (a) What are the advantages of using remote sensing technique compared to other ground investigations? 7
- (b) Write a note on the types of sensors used in remote sensing. 7
7. Write a brief note on any **two** of the following : 2×7=14
- (a) Trigonometric Levelling
- (b) Total Station
- (c) Aerial Photogrammetry