

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

**Term-End Examination**

**June, 2013**

**BICE-004 : ADVANCE SURVEYING**

*Time : 3 Hours*

*Maximum Marks : 70*

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*Note : Attempt **any seven** questions. Assume missing data if any. Use of scientific calculator is **permitted**.*

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1. What is sounding ? Discuss the different methods of soundings in detail. 10
2. Explain the term 'tacheometry'. Derive an expression for horizontal distance and elevation when the instrument is fitted with a stadia diaphragm and the line of sight is horizontal. 10
3. What is simple circular curve ? Explain clearly as how you would set out a simple curve by Rankine's method of Tangential angles. 10
4. (a) What are the requirements of transition curve ? 5  
(b) Discuss the problems of setting out a compound curve. 5

5. What are the requirements of a site selected for a base line in triangulation survey ? What equipments are necessary to measure a base line accurately ? 10
6. (a) Briefly explain how does measurements with EDM instruments differ from taping. What are the advantages of EDM measurements ? 5
- (b) List different types of EDM instruments and briefly explain any one of them. 5
7. (a) An instrument was set up at point A with horizontal sight when staff held at a BM of 500 m, reading was 3.56 m. The distance of point P from A was 2500 m and P was at angle of elevation  $5^{\circ} 30'$ . Determine the RL of P. 5
- (b) Discuss with diagram celestial latitude and longitude system. 5
8. (a) Explain what is relief displacement and how it is calculated ? 5
- (b) A camera having focal length of 20 cm is used to take a vertical photograph to a terrain having an average elevation of 1500 mts. What is the height above sea level at which an air - craft must fly in order to get the scale of 1 : 8000 ? 5

9. Explain real remote sensing process. How do they differ from ideal requirement ? 10

10. Attempt **any two** of the following : 2x5=10

(a) Mosaics

(b) 'Strength of figure'

(c) Total station

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