

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 130601**Date: 07-01-2013****Subject Name: Surveying****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is sounding? Write purposes of sounding and explain different equipments used for locating sounding. **07**
 (b) Explain horizontal control and vertical control for setting out works. **07**
- Q.2** (a) Describe setting out of foundation plan of the building. **07**
 (b) Derive an expression for prismoidal formula for volume. Compare it with the trapezoidal formula. **07**
- OR**
- (b) Enumerate different types of methods for measuring the volume and explain any one method in brief. **07**
- Q.3** (a) What are the general methods of calculating area? Explain double meridian distance (DMD) method in detail. **07**
 (b) Derive an expression for the length and shift of a transition curve required for a first class rail track. **07**
- OR**
- Q.3** (a) What are the common difficulties in setting out a simple curve? Describe the method employed in overcoming them. **07**
 (b) Enumerate the parts of a compound curve and describe the relationship between them. **07**
- Q.4** (a) What is vertical curve? Explain different types of vertical curves. **07**
 (b) Derive an expression for the distance and height for the trigonometric levelling case of 'object inaccessible and instruments axes at different levels'. **07**
- OR**
- Q.4** (a) Explain trigonometric leveling on the steep ground. **07**
 (b) Differentiate between temporary and permanent adjustment of a theodolite. **07**
- Q.5** (a) Discuss various methods of the theodolite traversing. **07**
 (b) Write short notes on omitted measurements. **07**
- OR**
- Q.5** (a) What are the different sources of errors in plane table survey? How are they eliminated? **07**
 (b) Distinguish between resection method and intersection method of plane table survey. **07**
