c) The approximate length of AC and BC were 8250.7 m and 10864.7 m. From the satellite 's' at a 63.19 m from the triangulation station 'C', the following direction were observed. $\angle A = 0°0'0"$, $\angle B = 72°55'32"$, $\angle C = 297°13'02"$. Calculate the $\angle ACB$.

UNIT - V

9. a) Write in detail how sounding are located by :

   i) Two angle from shore

   ii) Intersecting ranges

   b) Write short note on :

   i) Sounding machine

   ii) Echo - sounder

   iii) Shore signals

OR

10. a) Write in details about the image-processing systems in hydrographic surveying.

   b) Write the method of location sounding from shore by tacheometer.

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Roll No .....

CE - 403

B.E. IV Semester

Examination, June 2015

Surveying

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks.

UNIT - I

1. a) Explain how a theodolite is tested, and if necessary corrected so that

   i) Line of collimation may be coincident with the longitudinal axis of the telescope and

   ii) Line of collimation may be at right angles to the traverse axis

   b) Co-ordinates of two points A and B are as follows. A third point C has been chosen in such a way that bearing of AC and CB are 29°30' and 45°45' respectively. Calculate the lengths of line AC and CB

Point	Northing	Easting
A	150	200
B	1500	1300

OR

2. a) Define the following terms :

   i) Bubble down ii) Transiting

   iii) Centering iv) Balancing of survey

   b) Describe the procedure of prolonging a straight line using a theodolite.

   c) What is balancing of traverse? Describe Bowditch rule.

UNIT - II

3. a) Describe the use of tacheometry for traversing and contouring.

   b) State the importance of substance bar draw neat sketch of it.

OR

4. a) What is a tacheometer? State the procedure of determining the constants of this instrument.

   b) A tacheometer was set up at station C and the following readings were obtained on a vertically held staff.

Instrument Station	Staff Station	Vertical Angle	Hair reading
C	Bm	−5°20'	1.5,1.8,2.1
C	D	+8°12'	.75,1.5,2.25

UNIT - III

5. a) What is transition curve? State the various types of transition curves with the help of a neat sketch.

   b) Define and discuss the importance of super elevation in high ways.

OR

6. a) Write the angular method of curve drawing. Also write various steps of field procedure of curve drawing by this method.

   b) Define Degree of curve and long chord.

UNIT - IV

7. a) Differentiate Plane Survey with Geodetic Survey. Write objects of Geodetic Survey.

   b) Write short note on :

      i) Reduction to mean sea level

      ii) Correction for slope

      iii) Selection of station

OR

8. a) State the various points to be considered in selection of station.

   b) What is satellite station? Why it is required?