

- 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. $\angle A = 0^\circ 0' 0''$, $\angle B = 72^\circ 55' 32''$, $\angle C = 297^\circ 13' 02''$. Calculate the $\angle ACB$.

Roll No

CE - 403**B.E. IV Semester**

Examination, June 2015

Surveying*Time : Three Hours**Maximum Marks : 70***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

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

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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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 $29^\circ 30'$ and $45^\circ 45'$ respectively. Calculate the lengths of line AC and CB

<u>Point</u>	<u>Northing</u>	<u>Easting</u>
A	150	200
B	1500	1300

[2]

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	$-5^{\circ}20'$	1.5, 1.8, 2.1
C	D	$+8^{\circ}12'$.75, 1.5, 2.25

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[3]

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?

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