2188

Surveying - I
(1020)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :
1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** bit out of a,b,c in each question.
5. Non - programmable calculator is allowed.
6. Attempt complete one question at one place only.
7. Assume suitable data if necessary.

UNIT - I

1. a) List the Instruments used in levelling ? Explain any one in detail with Applications. **10**

   b) Explain about Reciprocal Levelling and Profile Leveling in detail. **10**

   c) Explain : **10**

      i) Reconnaissance survey

      ii) Types of levelling stares.

UNIT - II

2. a) Explain the permanent adjustments of transit Theodolite. **10**

   b) Explain the measurement of horizontal angles by using theodolite in detail. **10**

   c) In a traverse the latitudes and departures of the sides were calculated and it was observed that.
   $\Sigma L = 1.39$ and $\Sigma D = -2.17$
   Calculate the length and bearing of closing error. **10**

UNIT - III

3. a) Explain about use of Tacheometry in survening in detail. **10**

    b) Explain : **10**

    i) Principle of stadia method.

    ii) Tacheometric contour survey.

    c) The following is the data relative to observation made on a vertically held staff with a tacheometer filted with an anallatic lens. The constant of the instrument was 100. **10**

Inst st	HL of axis	Staff station	W.C.B.	Vertical Angle	Hair readings	Remark
0	1.56	A	12°25′	0′0″	1.88, 2.25, 2.62	RL of 0
		B	60′45′	+15°10′	1.83, 2.15, 2.47	= 130.25 m.

Calculate the distance AB and RL of A and B.

UNIT - IV

4. a) Explain Horizontal and vertical curves and their purposes. **10**

    b) Explain about compound curves and Reverse curve. **10**

    c) Explain about Transition curve in detail. **10**

UNIT - V

5. a) List the methods of plane tabling ? Explain any one in detail. **10**

    b) Explain about use of Abney Level in detail. **10**

    c) Explain : **10**

    i) Two point problems.

    ii) Advantages of plane table surveying.

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