Total No. of printed pages = 3

CT-404/Surv-II/4th Sem/2015/M

SURVEYING – II

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer *all* questions.

1. To determine the elevation of the top of a flag-staff, the following observations were made :

Inst. station	Reading on BM	Angle of elevation	Remarks
A	1.266	10°48'	RL of BM = 248.362
B	1.086	7°12'	

Stations A and B and the top of the aerial pole are in the same vertical plane. Find the elevation of the top of the flagstaff, if the distance between A and B is 50m. 10

[Turn over

2. Explain the following methods of plane tabling :

   (i) Resection

   (ii) Intersection. 2×5=10

3. (a) Explain the fundamental lines of a theodolite and give their desired relations. 6

   (b) What is parallax ? How do you eliminate parallax in theodolite ? 4

4. A tachometer is set up at an intermediate point on a traverse course PQ and the following observations are made on a vertically held staff.

Staff station	Vertical angle	Staff intercept	Axial hair readings
P	+8°36'	2.350	2.105
Q	+6°6'	2.055	1.895

   The instrument has constants 100 and 0.4. Compute the length of PQ and RL of Q, that of P being 320.50m. 10

5. What is three-point problem ? How is it solved ? 10

6. Explain the principle of stadia method and derive the expression for constants K and C. 10

7. Explain the following : 2×5=10

(i) Orientation by back sighting

(ii) Advantages of plane table surveying

(iii) Errors eliminated by repetition method

(iv) Reiteration method

(v) Principle of subtense method or movable hair method.