Roll No. ....
Printed Pages : 2

34113

BT-4 / M-18
SURVEYING-II
Paper–CE–210N

Time allowed : 3 hours]   *[Maximum marks : 75*

Note :- Attempt any five questions.

1. (a) Write in detail about various triangulation figures.   7½

    (b) The altitude of two proposed station A and B, 130 km apart are 220 m and 1160 m. The altitude of two points C and D on the profile between them are 308 m and 632 m. AC = 50 km, AO = 90 km. Check the intervisibility between A and B.   7½

2. Derive a relationship for axis-signal correction.   15

3. Find RL of Q from following data:

    PQ= 9290 m. Angle of elevation from P to Q = 2°6' 18", Height of signal at Q = 3.96 m, Height of instrument at P = 1.25, m = 0.07, R sin 1" = 30.88m, RL of P = 396.58 m   15

4. Write in detail about the coordinate system used in astronomical surveying.

    Explain following : Visible horizon, Latitude, Longitude, Altitude, Right a scension, hour angle ecliptic.   15

5. Determine zenith distance and altitude at the lower culmination for a star having declination = 85°20'. If Latitude of the place of observation = 46°50'.   15

34113   [Turn over

(2)

Determine hour angle and declination of a star

Altitude of the star = 21°30'

Azimuth of star = 140°E

Latitude of the observe = 48°N

6. Explain with a neat sketch an aerial camera, writing about various parts.   15

7. A camera having a focal length = 20 cm in used to take a vertical photograph to a terrain having one average elevation of 1500m. What is the height above m.s.ℓ. at which an air craft will fly in order to get the scale of 1:8000.   15

8. Derive a relationship for relief displacement on a vertical photograph.

    The scale of an aerial photograph was 1cm = 100 m the photograph size is 20 cm × 20 cm. Determine the number of photographs required to cover an area of 8 km × 12.5 km. Longitudinal lap = 60%, Side lap = 30 %.   15

34113