P72

APR. -16/TE/Insem. - 1
T.E. (Civil)
ADVANCE SURVEYING
(2012 Course) (Semester - II)

Time : 1Hours]   *[Max. Marks :30*

Instructions to the candidates:

1)   Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q6.

2)   Neat diagrams must be drawn wherever necessary.

3)   Figures to the right indicate full marks.

4)   Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

5)   Assume suitable data, if necessary.

Q1) a)   Elevations of two triangulation stations. A and B, 106 km apart are 131 m and 434 m respectively. A peak C 80 km from station A has an elevation of 221-50 m. Ascertain it A is visible from B or not. Also find the minimum height of Scaffolding at B, so that the line of sight has a minimum 3m clearance any where.   **[6]**

b)   Explain with neat sketches GPS segment.   **[4]**

OR

Q2) a)   Explain in brief classification of triangulation system.   **[5]**

b)   What are different types of error in GPS observations and explain any one of them.   **[5]**

Q3) a)   Define tide and enlist the different types of tidal gauses.   **[5]**

b)   What is meant by sounding? Enumerate different instruments required for sounding and explain echosounding.   **[5]**

OR

Q4) a)   Define Hydrographic surveying and enlist various objectives of hydrographic surveying.   **[4]**

b)   Describe briefly how the soundings are located by two angles from the shore.   **[6]**

P.T.O.

Q5) a) What do you understand by setting out works? What important factors to be considered while setting out. **[4]**

b) Two triangulation stations A and B are 2800 m apart. Angle of elevation from A to B was 1° 28'32". The height of the instrument was 1.38m and the signal was 2.48m high. If the reduced level of station A was 125m and the coefficient of refraction was 0.07. The redius of earth is 6372 km. Find RL of B. **[6]**

OR

Q6) a) Derive an equation to determine difference in elevation between two points having great distance between them and the observed vertical angle is an angle of elevation. **[6]**

b) Explain with heat sketch setting out of bridge. **[4]**

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