APR - 17/TE/Insem. - 1

T.E. (Civil)

ADVANCE SURVEYING

(2012 Course) (Semester - II)

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

Instructions to the candidates:

1) Answer Q1 or Q2, Q3 or Q4 Q5 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) Define geodetic Surveying. What factors are to be considered while selecting a best triangulation figure or system? **[5]**

b) Write a note on GPS segments. **[5]**

OR

Q2) a) Two Triangulation Stations 60 km apart have elevations 240m and 280m respectively. Find the minimum height of signal required at B. So that the line of sight may not pass near the ground than 2m. The intervening ground may be assumed to have a uniform elevation of 200m. **[5]**

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

Q3) a) What is meant by Sounding? Enumerate different instruments required for sounding purpose and explain echo sounding. **[5]**

b) List out methods of locating sounding and explain any one. **[5]**

OR

Q4) a) Explain the three point problem and graphical method of solution at three point problem. **[5]**

b) What is tidal gause? Enlist the different type of tidal gauses and explain any one in brief. **[5]**

P.T.O.

Q5) a) A vertical angle of elevation was observed from a station P as 2° 32' 25". Determine its true value if the height of instrument at P is 1.2m and height of signal at other station Q is 5.2m. The two stations P and Q are 5200m apart. Take R sin 1" = 30.88m. **[5]**

b) Describe in brief the location survey of bridge of a long bridge. **[5]**

<div align="center">OR</div>

Q6) a) The following observations were taken in trigonometrical levelling.

Angle of depression of P at Q = 1° 45' 32"

Height of instrument at Q = 1.18 m.

Height of signal at Q = 4.22m.

Horizontal distance between pand Q = 6945m

Coefficient of refraction = 0.07

R sin 1" = 30.88m.

If RL of Q = 345.32m Calculate RL of P. **[6]**

b) Describe the survey for transfering the surface alignment through the shaft. **[4]**

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