Total No. of Questions : 6] SEAT No. :

P475 [Total No. of Pages : 2

TE/Insem/APR - 1
T.E. (Civil Engineering)
ADVANCED SURVEYING
(2012 Pattern)

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 Calculator is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) State the objects of geodetic surveying and explain Primary triangulation. **[5]**

b) State any five advantages of Space Based Positioning System. **[5]**

OR

Q2) a) Write a short note on Absolute and differential positioning system. **[5]**

b) Two triangulation stations 70 km apart have elevations 260 m and 300 m respectively. Find the minimum height of signal required at B. So that the line of sight may not pass near the ground than 2 m. The intervening ground may be assumed to have a uniform elevation of 210 m. **[5]**

Q3) a) What is mean by Sounding. Explain Echo sounding. **[5]**

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

OR

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

b) What are tides? Explain different tidal gauges. **[5]**

P.T.O.

Q5) a) The following observations were taken in trigonometric leveling survey. **[5]**

i) Angle of depression to P at Q = 1°45'22".

ii) Height of instrument at Q = 1.18 m

iii) Height of signal at P = 4.22 m.

iv) Horizontal distance between P and Q = 6945 m.

v) Coefficient of refraction = 0.07.

vi) R.L. of Q is 345.32 m.

Calculate R.L. of P.

b) Explain how the alignment of tunnel is transferred from surface to underground. **[5]**

OR

Q6) a) Determine the difference in elevation between two points A and B from the following observations. **[5]**

i) Horizontal distance AB = 5620 m

ii) Reduced Level of A = 415.5 m

iii) Height of instrument at A = 1.5 m

iv) Height of instrument at B = 1.45 m

v) Height of signal at A = 6.50 m

vi) Height of signal at A = 4.54

vii) The angle of elevation from A and B = 2°32'24"

viii) The angle of elevation from A and B = 2°20'34"

b) Explain with neat sketch Setting out of bridge. **[5]**

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