

R07

Code: R7210105

B.Tech II Year I Semester (R07) Supplementary Examinations, May 2013

SURVEYING
(Civil Engineering)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. Explain the objectives and principles of surveying. Also write the purposes of survey.
2. (a) Explain in detail the types of chains.
(b) Explain the tape corrections.
3. Explain:
(a) Direct leveling.
(b) Indirect leveling.
4. Following the notes refer to three-level cross sections at two stations situated at a distance of 50 m:

Station		Cross section	
1	$\frac{1.20}{5.33}$	$\frac{2.60}{0}$	$\frac{4.68}{8.57}$
2	$\frac{2.75}{7.30}$	$\frac{3.20}{0}$	$\frac{5.45}{9.50}$

The width of the cutting at the formation level is 9 m. Calculate the volume of cutting between the two stations. Also, calculate the prismoidal correction.

5. Explain the permanent adjustments of theodolite. Also mention the uses of theodolite.
6. Determine the gradient from a point P to a point Q from the following observations carried out with a tacheometer fitted with an anallotic lens:

Instrument station	Staff point	Beating	Vertical angle	Staff readings
0	P	345°	+15°	0.750, 1.435, 2.120
0	Q	75°	+0°	0.625, 1.835, 3.050

7. Explain the settings out simple curves using:
 - (a) Linear methods.
 - (b) Angular methods.
8. Write short notes on:
 - (a) Total station.
 - (b) GIS.
