



RM-6077

B. Arch. I (Sem. II) Examination

May / June – 2010

Surveying & Levelling

(New Course)

Time : 2 Hours]

[Total Marks : 50

Instructions :

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
 Fillup strictly the details of signs on your answer book.

Name of the Examination :

Name of the Subject :

Subject Code No. : Section No. (1, 2,.....) :

Seat No. :

Student's Signature

- (2) Assume suitable data and specifically mention it.
- (3) Figures to the **right** indicate full marks.
- (4) Use of Nonprogrammable scientific calculator is permitted.

Q. 1	(a) Explain following Terms (Any four): Well conditioned Triangle, Levelling, base line, BB, offset, Traverse	04															
	(b) What is ranging? Explain the process of ranging.	04															
Q-2	Attempt Any two	10															
	(a) Tabulate & Calculate RL of all the stations if following readings are taken with a 3 m leveling staff. Instrument is shifted after 3 rd & 5 th reading. Use any method for calculation of RL. Benchmark was taken on a 1 st station having 100 m RL. 0.55, 1.25, 2.565, 3, 1.25, 1.36, 0.45, 0.55, 0.8																
	(b) The bearings of sides of triangle AB, BC & CA are 60°, 130°, & 270° respectively. Compute the internal angles of Triangle.																
	(c) Following readings are taken with a magnetic compass. It has been observed that few stations are suspected for local attraction. Find out such stations & calculate correct bearings with check.																
	<table border="1" style="width: 100%;"> <thead> <tr> <th>Line</th> <th>FB</th> <th>BB</th> </tr> </thead> <tbody> <tr> <td>AB</td> <td>60° 30'</td> <td>240° 30'</td> </tr> <tr> <td>BC</td> <td>99° 15'</td> <td>278° 0'</td> </tr> <tr> <td>CD</td> <td>38° 45'</td> <td>221° 30'</td> </tr> <tr> <td>DE</td> <td>321° 15'</td> <td>139° 45'</td> </tr> </tbody> </table>	Line	FB	BB	AB	60° 30'	240° 30'	BC	99° 15'	278° 0'	CD	38° 45'	221° 30'	DE	321° 15'	139° 45'	
Line	FB	BB															
AB	60° 30'	240° 30'															
BC	99° 15'	278° 0'															
CD	38° 45'	221° 30'															
DE	321° 15'	139° 45'															

Q-3	(a) Calculate area bounded between Chain line & Boundary using Simpson's Rule .	04																
	<table border="1"><tr><td>Offset (m)</td><td>2</td><td>3</td><td>4</td><td>5</td><td>3</td><td>5</td><td>1</td></tr><tr><td>Chainedge (m)</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td></tr></table>	Offset (m)	2	3	4	5	3	5	1	Chainedge (m)	5	10	15	20	25	30	35	
Offset (m)	2	3	4	5	3	5	1											
Chainedge (m)	5	10	15	20	25	30	35											
	(b) Explain Instruments used in Plane table surveying , its use & any one method of Orientation	06																
Q-4	(a) explain following terms : FS, True Meridian, Magnetic Declination, CP,	5																
	(b) Explain types of leveling Staff & its use.	5																
Q-5	Write short notes on following (Any Three)	12																
	<ol style="list-style-type: none">1. Use of Contour map2. GIS3. Profile levelling4. instruments used in chain surveying5. Total station6. Chaining																	