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**OLABISI ONABANJO UNIVERSITY, AGO-IWOYE**  
**DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING**  
**FACULTY OF THE SOCIAL SCIENCES**  
**2007/08 HARMATTAN SEMESTER EXAMINATION**

**GRP 203: ELEMENTARY SURVEYING**

**INSTRUCTION: ATTEMPT ALL QUESTIONS**

**TIME ALLOWED: 1HR 15 MINS**

- 1a. What is Surveying? *Principles*
- b. What are the objects of surveying? *large scale*
- c. Distinguish between a map and a plan. *Small Scale*
  
- 2a. What is levelling? ✓
- b. Itemise and expatiate the type of errors in levelling. ✓
- c. Given that a staff holder is out of vertical, at angle  $120^\circ$ , and the reading is 4.500m. Explain the type of error(s) committed and the actual reading of the staff.
  
- 3a. Distinguish between Forward Bearing and Back Bearing. ✓
- b. What are the requirements of a compass in the measurement of bearing.
- c. Examine the difference between temporary and permanent adjustment for a compass instrument.
  
4. Indian clinometer is more significant in the operation of Plane Tabling. Discuss.
5. The following figures were extracted from a level field book. Some of the entries being illegible owing to exposure to rain. Insert the missing figures and check your results. Re-book all the figures by the Rise & Fall method, and state the advantage of this method of booking.

BS	IS	FS	H of I	RL	Remarks
?			279.08	277.65	OBM
				?	
	2.01			278.07	
	?		?	278.68	
	2.98	0.40		?	
3.37	1.41			280.64	
		?		281.37	TBM

*Handwritten notes and diagrams:*

FB  $\nearrow$   $\theta^A_{NA}$   $\searrow$   $\theta^B_{NB}$

BR  $\nearrow$   $\theta^A_{NB}$   $\searrow$   $\theta^B_{NA}$

$\theta^A_{NB} \angle \theta^B_{NA} = 180^\circ$

$\theta^A_{NB} - \theta^B_{NA} = ?$

$\theta^A_{NB} \angle \theta^B_{NA}$

$\theta^A_{NB} - \theta^B_{NA} = ?$

*Grid with numbers:*

8	9	2	7	7
2	0	1	5	3
1	3	1	7	7
1	3	1	7	7