

LAB-4 (INTRODUCTION TO LEVELING)

FIELD BOOK:

Point	Staff reading (m) (Middle cross hair)	Upper stadia reading(m)	Lower stadia reading(m)	Distance from the set-up to the point	
				By (stadia method)	By tape
A	1.092m	1.132m	1.053m		7.90m
B	1.231m	1.300m	1.162m		10.40m
C	1.436m	1.505m	1.367m		13.79m
D	1.548m	1.58m	1.500m		8.00m
E	1.375m	1.42m	1.33m		9.175m
F	1.02m	1.064m	0.975m		8.95m

Computations:

1. Find the difference in elevation between Point A and all other points(ie, B,C,D,E & F)
2. What does the difference represents.
3. Find the (value) with maximum difference in elevation from Point A.
4. What is the (value) with minimum difference in elevation from Point A.
5. Find the horizontal distance by stadia method.
6. Find the accuracy ratio for the distances.

Equipment Description and Setup: (To be included in the Lab Report)

7. **Auto level:** Mark the parts of the equipment (auto level) and explain the function of each part.
8. **Leveling staff:** Explain with a picture how to read the leveling staff.
9. **Setting up the Auto level:** Explain with the help of pictures how to do setting up and centering the bubble of an auto level.

Lab report includes:

Cover page & table of contents
Introduction
Objectives
Theoretical background(Definitions & Equations)
Equipment (Picture & Description) (See the Points 7 &8 mentioned above)
Step by step procedure - (Setting up the tripod and centering the bubble procedure + Experimental procedure)- Refer to point 9 above
Data Sheet
Calculation
Table of Results
Discussion of results
Sources of error
Conclusion
References (Minimum 5 references)
Distribution of work