

Sheet #1

Note: You are required to submit the answers in a report within one week (hand writing)

1. What is the purpose of topographic Surveying?
2. Regarding to EDM, Write about:
 - a. Instrumental Errors
 - b. Natural Errors
 - c. Personal Errors
3. What are the steps needed to adjust the total station for coordinates measurements?
4. According to wavelength of transmitted electromagnetic energy, EDM instruments are classified into: And
5. An EDM transmits 2 signals having wavelengths 1.0 m and 1000.0 m. when measuring a distance, the phase shifts were: 186.50° and 310.44° respectively. Compute the length of this measured distance.
6. Distance $D = 6480.46$ m is measured by two EDM Instruments. Instrument (I) has accuracy equals to $\pm (5 \text{ mm} + 4 \text{ ppm})$, while instrument (II) accuracy is $\pm (3 \text{ mm} + 5 \text{ ppm})$. Compute the error in distance D made by each instrument. Which instrument is better to use? Why?
7. What is the expected error in measuring a line of 800 m using total station, with $(3 \text{ mm} \pm 3 \text{ ppm})$ accuracy?