

BS Geography 4 Years Programme, University of the Punjab, Lahore

- **Introduction to GPS Technology**
 - Types, Performance and Errors
 - Use & Applications
- **Leveling**
 - General description kinds of levels
 - Adjustments in levels
 - Procedure of leveling
 - Methods of calculating reduced levels.
 - Profiles and longitudinal leveling
 - Cross sectional leveling
 - Accuracy required in leveling operation.
 - Advantages and sources of error in leveling procedure.
 - Contours by clinometers
 - Tangent scale clinometers use with Plane Table laying out of contours

Books recommended:

1. Breed, C.B. & G.L. Hosmer (1953): Surveying. John Wiley & Sons.
2. Brinker R.E. & W.C. Taylor (1962): Elementary Surveying, The International Text Book Company.
3. Clendinning, J. (1960): Principles of Surveying. Blackie and Sons, Limited Glasgow,
4. Kanetkar, T.P. & S.V. Kulkarni (nd): Surveying and Leveling part-I. Union Book Stall Karachi.
5. Maginr D. J (1991):. Geographic Information System. Longman London
6. Rubey, H. et .al (1958): Engineering Surveys. The Macmillan Company.
7. Thomas W.N. (1942): Surveying, John Wiley and Sons.
8. Usili G.W. (1960): Practical Surveying. The Technical Press Ltd.