

- **Introduction:**
 - Definition and Scope
 - Development of Hydro Geography
- **Hydrological Cycle and Water Balance:**
 - Types of Water Resources
 - Hydrological Cycle, its components and human intervention
- **Precipitation and Rainfall:**
 - Forms of Precipitation
 - Evaporation and Transpiration
 - Space time Characteristics of Rainfall
 - Statistical Analysis and Cartographic Representation of Rain Fall Data
- **Runoff:**
 - Factor affecting the Runoff
 - Runoff Cycle and Phases of Runoff
- **Ground Water:**
 - Occurrence Origin and Discharge of Ground Water
 - Ground Water Reservoirs
 - Water Logging and Salinity
 - Human impacts on ground water and remedial measures
- **Floods:**
 - Causes and consequences of Floods

- Flood Protection and Planning in urban areas
- **Glacial Water:**
 - The significance of glaciers in water cycle
 - The importance of glaciers for Pakistan
 - Response of Glacier to Global warming and Climatic Changes
- **Water Pollution:**
 - Classification of Water Pollutants
 - Extent and Distribution of Water Pollutants
 - Effects of Water Pollution
- **GIS and RS Application:**
 - RS-based Hydrological Data Acquisition
 - GIS-base Hydrological Mapping

Books Recommended :

1. Aronoff, S. 1995 Geographic Information Systems: A Management Perspective, Wdl Publications, Ottawa, forth edition Canada.
2. Chow, V. T. 1964 A Handbook of Applied Hydrology, McGraw Hill New York.
3. Water Resources Use and Management – Proceedings of a Symposium held at Canberra, Cambridge University Press London.
4. Drwry S.A. 1990 A Guide to Remote Sensing and Image Processing, Press Oxford.
5. Hill, E.S. (ed.) 1966 Arid Lands, Methuen London.
6. Hutchinson, G.E. 1960 A Treatise on Limnology, Chapman Hall Ltd. London.
7. John. R.J. 1996 Introduction to Digital Image Processing. Prentice Hall.
8. Meinzer, O.E. 1942 Hydrology, McGraw Hill New York.
9. Curran P. J. 1985 Principles of Remote Sensing. Longman Group Ltd.
10. Steel, E.W. 1966 Water Supply and Sewerage (4th ed.) McGraw Hill New York.
11. Strahler, A.N. 1963 The Earth Sciences, Harper & Row New York.
12. Lillesand T. M. & Kiefer R. W. 2004 Remote sensing and image interpretation. John Wiley & Sons Inc.
13. Todd, D.E. 1959 Ground water, John Wiley New York.
14. Tolm, C.F. Ground water, McGraw Hill New York.
15. Wisner, C.O. 1959 Hydrology, John Wiley New York.