

**B. Sc. REGULAR PROGRAMME**  
**ENVIRONMENT AND WATER MANAGEMENT**  
**(For 2016 & onwards)**  
**Semester I: UGSCBCS (CORE COURSE)**

**Fundamentals of Environmental Science**

**Credits 04 (64 hours)**

**Credit-I: Concept of Environment**

**16 hours**

- 1.1 Environment: Concept, importance and major components
- 1.2 Atmosphere: Composition and stratification
- 1.3 Hydrosphere: Global water resources and distribution
- 1.4 Lithosphere: Stratification and composition
- 1.5 Biosphere: Brief account

**Credit-II: Natural Resources**

**16 hours**

- 2.1 Concept and classification of natural resources
- 2.2 Physical resources
  - a. Water
  - b. Soil
  - c. Air
- 2.3 Bio-resources
  - a. Plant
  - b. Animal
- 2.4 Mineral resources: Brief account
- 2.5 Energy resources: Brief account

**Credit-III: Ecosystem Dynamics**

**16 hours**

- 3.1 Ecosystem: concept and types
- 3.2 Structure of an ecosystem
- 3.3 Energy flow in an ecosystem
- 3.4 Primary and secondary productivity: Brief account
- 3.5 Bio-geochemical cycles: Carbon, nitrogen, phosphorus and sulphur

**Credit-IV: Analytical Chemistry**

**16 hours**

- 4.1 Concept and scope of analytical chemistry
- 4.2 Titrations:
  - a. Acid Base titrations (carbonate and bicarbonate)
  - b. Redox titrations (COD)
  - c. EDTA titrations (calcium and magnesium)
  - d. Precipitation titrations (chlorides)
- 4.3 Concept of electro-motive force (e.m.f.)
- 4.4 Concept of pH and conductivity.
- 4.5 Spectrophotometry and flamephotometry: Elementary idea



**Semester I:UGSCBCS (CORE COURSE)**  
**Laboratory Course – I**

**Credits 02 (64 hours=32x2)**

1. Standardization of reagents.
2. Determination of solids (total, dissolved and suspended) in water.
3. Determination of pH value of water.
4. Determination of conductivity of water.
5. Determination of turbidity of water
6. Estimation of dissolved oxygen content of water.
7. Estimation of BOD of water
8. Determination of carbon dioxide and alkalinity of water.
9. Determination of hardness of water.
10. Determination of chlorides in water.

  
Head  
P.G. Deptt. Of Environmental Sci.  
University of Kashmir