

6

ENVIRONMENT AND WATER MANAGEMENT

Semester I (2017-18)

Course Code EWM17101-DSC
Total Credits: 06

Course Title: Fundamentals of Environment
Max. Marks: 90 (theory=60, Lab. Course=30)

Credit-I: Concept of Environment

15 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: a brief account

Credit-II: Natural Resources

15 hours

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

Credit-III: Ecosystem Dynamics

15 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: a brief account
- 3.5 Bio-geochemical cycles: carbon, nitrogen, phosphorus and Sulphur cycles

Credit-IV: Analytical Chemistry

15 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

Laboratory Course – EWM17101-DSC

Credit 5 and 6

Max. Marks: 30

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.

Anees.

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