3. InduShekhar Thakur. Text book of Environmental Biotechnology.
4. Pradipta Kumar Mohapatra. Text book of Environmental Biotechnology.
5. Singh, B.D. Text book of Environmental Biotechnology.

PRACTICAL COURSES

ESP406ENVIRONMENTAL CHEMISTRY LAB.

Course Outcomes:
CO1Determine metal concentration in industrial effluents.
CO2Learn the principles for the estimation of various chemicals present in water and soil.CO3Estimate various soil quality tests.
CO4Understand saponification value of oil.

1. Determination of pH and conductivity of different water and soil samples.
2. Determination of calcium and magnesium in different samples.
3. Determination of total dissolved solids in water samples.
4. Determination of carbonates and bicarbonates in water samples.
5. Determination of chloride in water sample.
6. Estimation of Iodine value of given oil samples.
7. Determination of copper content in industrial effluents.
8. Determination of ferrous ion in the samples.
9. Estimation of the amount of Phenol/Aniline in the water samples.
10. Determination of Saponification value of oil.

ESP407ENVIRONMENTAL GEOLOGYLAB.

Course Outcomes:
CO1 Exercise and compute water budget.
CO2 Observe hand specimens to identify and classify different types of rocks.
CO3 Estimate ground water quality.
CO4 Understand environmental data interpretation.

1. Identification of Minerals and Rocks.
2. Physical properties and chemical composition of various rock forming minerals.
3. Hand specimen study of Igneous, sedimentary and metamorphic rocks.
4. Classification of soils, sediment, their texture, mineralogy.
5. Interpretation of Toposheets.
6. Study of littoral drift in the field and laboratory using dye and tracer techniques.
7. Drainage Basin Analysis and drainage frequency maps.
8. Exercises related to water budget.
9. Exercises related to Potential Evapotranspiration.
10. Compute monthly water budget from the given data.
11. Ground water quality – Impact and Testing.
12. Interpretation of waves, climate, tides and currents for the given data.