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PRACTICAL COURSES

ESP518 WATER AND WASTEWATER MANAGEMENT LAB.

Course Outcomes:

CO1 Learn the methodology of determination of physico-chemical parameters of water.

CO2 Learn different methods to assess soil quality.

CO3 Visit to water purification and wastewater treatment plants

CO4 Enhance their knowledge about water and wastewater management.

CO4 Describe infiltration and runoff characteristics of water.

CO5 Learn techniques of water and wastewater analysis which help in employability.

1. Determination of DO in water and wastewater.
2. Determination of BOD in water and wastewater.
3. Determination of COD in water and wastewater.
4. Determination of porosity and permeability of different soils.
5. Determination of infiltration and runoff characteristics.
6. Determination of nitrite content in water.
7. Determination of sulphate content in water.
8. Determination of silicate content in water
9. Determination of phosphate content in water.
10. Visit to water & wastewater treatment plants.

ESP519 SOLID WASTE MANAGEMENT LAB.

Course Outcomes:

CO1 Characterize solid waste from different sources.

CO2 Conduct the experiments using leachate prepared from solid waste.

CO3 Learn compost analysis.

CO4 Know the method of determination of chemicals in solid waste.

CO5 Learn solid waste management methods which develops skills

on environmental management.

1. Characterization of solid waste from different sources.
2. Designing of secured/sanitary landfills.
3. Study of methods of management of biomedical waste.
4. Characterization of toxicity of hazardous waste from different sources by leaching test procedure.
5. Determination of organic carbon in compost.
6. Field trip to municipal solid waste/zero waste management sites/ Biomedical waste plant.
7. Determination of inorganic phosphate in leachate samples.
8. Determination of total nitrogen in leachate.
9. Determination of TSS/TDS in leachate samples.

ESP520 AIR, NOISE AND RADIATION POLLUTION LAB.

Course Outcomes:

CO1 Assess air pollutants, noise pollution and radiation in different areas.

CO2 Learn air pollution indicators.

CO3 Assess particulate matters in different areas.

CO4 Learn SO₂, NO_x analysis.

1. Determination of SO₂ in different areas.
2. Determination NO_x by spectrophotometric method.
3. Basic radioactive measurement procedures using GM counter.
4. Studies on indicators of air pollution.
5. Measurement of noise level in different environments by sound level meter (SLM).
6. Determination of particulate matters PM₁₀ and PM_{2.5}.
7. Field visit to assess air and noise pollution.
8. Determination of radiation in a given area using dosimeter.

ESP521 ENVIRONMENTAL IMPACT ASSESSMENT LAB.

Course Outcomes:

CO1 Assess and predict the impact on environmental components.

CO2 Prepare model environmental audit report for any industry/process/ operation.

CO3 Learn the methodologies of environmental impact assessment and environmental audit which help in employment opportunities in environmental organizations.

CO4 Understand the impact of urbanization on environment.

1. Assessment and prediction of impact on air and water.
2. Assessment and prediction of impact on flora and fauna.
3. Criteria for EIA of water related projects.