M. Sc. Environmental Sciences

Semester III

Practical 1

Duration : 5 Hrs

1. Determination of the dust capturing capacity and percent leaf area injury of selected plant species.
2. Study of biotic communities of polluted and non polluted aquatic areas.
3. Effect of heavy metals on seed germination and early seedling growth.
4. Effect of heavy metals on ascorbic acid content in plant leaves.
5. Study and identification of minerals and rocks.
6. To prepare open questioners to assess an Environmental awareness among villages.
7. Effect of heavy metals on chlorophyll content, soluble protein, phenols and carbohydrates.
8. To calculate the LC 50 in fishes for heavy metals calculation of MATC and threshold concentration.
9. To prepare histopathological slides of kidney and liver of mice treated heavy metals like Lead and Mercury.
10. Determination of LD50 Dose response of toxic chemicals.
11. Short term bioassay lists of industrial pollutants in relation to fresh water animals.
    a) Calculation of 96 hours LC50
    b) Assessment of threshold concentration.
    c) Calculation of MATC (Maximum acceptable toxicant concentration)
    d) Calculation of application factor or safe concentration)

Practical II

Durati
on : 5 Hrs

1. Working and principles of handling various equipments:
    a) High volume air sampler
    b) Spectrophotometer
    c) Refrigerated centrifuge
    d) Homogenizer
    e) Flame photometer
    f) Gas analyzer
    g) Growth chamber
    h) Atomic Absorption Spectrophotometer
    i) Autoclave
    j) Polarograph
    k) Muffle furnace
    l) Bomb calorimeter

Diagram, working and instrumentation of all the equipments mentioned above