

MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR

B. Sc. BIOTECHNOLOGY III YEAR TDC (2016-17)

B. Sc. IIIrd Year Practicals

Practical – II

(A) Natural Resources and Environmental Biotechnology

1. Detection of coliforms for determination of the purity of potable water.
2. Determination of total dissolved solids in given water sample/s.
3. Determination of biological oxygen demand (BOD) of a sewage sample.
4. Determination of chemical oxygen demand (COD) of sewage sample.
5. Study on biogenic methane production in different habitats.
6. Test of heavy metals (Zn, Cu, Pb) tolerance in some identified bacteria.
7. Isolation of bacteria from various polluted sites (waste water, distillery waste) and their identification.
8. Isolation and identification of Mycorrhizal fungi from soil samples.
9. Isolation and identification of nitrogen fixing bacterium *Rhizobium* from root nodules.
10. Isolation of xenobiont degrading bacteria by selective enrichment technique.
11. Test for the degradation of aromatic hydrocarbons by bacteria.
12. Demonstration of methods for waste water treatment.
13. Test of herbicide tolerance and early seedling growth in some cereals, legumes and oil-seed crops.
14. Test of drought tolerance (induced by PEG) and early seedling growth in some cereals, legumes and oil-seed crops.
15. Determination of hardness in given water sample/s.
16. Determination of residual chlorine in given water sample.
17. Determination of composting (by verimculture)
18. To study the effect of Bt toxin on lepidopteran insects.
19. Baculovirus stock- preparation and titration using plaque colony.
20. Co-transfection of insects cells using linearized baculovirus stocks
21. Anaerobic digestion of organic fraction of municipal waste.
22. Bioinsecticidal effects of biopesticides obtained from microbial and plant sources.

(B) Biotechnology in human and animal health

1. Test of genetic fidelity of microclones by DNA fingerprinting using molecular markers.

2. Immunodiagnosis by Radioimmuno assay (RIA)
3. Immunodiagnosis by ELISA.