

EVS 507 Environmental Microbiology And Biotechnology

(Credits: 04)

Objective: To paraphrase basics of microbiology and biotechnology among learners and their applications in enhancing the quality of environment and sustainable use

Syllabus

Environmental Microbiology:

Distribution, characteristics, diversity and ecological significance of Microbes; Microbial growth and metabolism: Environmental factors, growth phases and metabolic pathways; Environmental applications of microbiology: Bioremediation, Detoxification of pollutants, Toxic waste treatment, and treatment of drinking water

Environmental Biotechnology:

Xenobiotic and recalcitrant compounds: Concepts and application of genetic engineering; Biotechnology and biodiversity; Regulatory and ethical issues

SUGGESTED READINGS

Biological Degradation of Wastes- A.M. Martin, Elsevier App. Sci., New York.

In-situ Bioremediation (2nd ed.)- B.E. Rittmann, E. Seagren, B.A. Wrenn, A.J. Valocchi, C. Ray and R. Lutgarde, Naves Publication USA.

Environmental Biotechnology for Waste Treatment- G.S. Saylor, Robust Fox and J.W. Blackburn, Plenum Press, New York. *Principles of Gene Manipulation (3rd edn.)-* R.W. Old and S.B. Primrose, Blackwell Sci. Pub., Cambridge.