

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 3

Environment Science & Engineering

Subject Code 131302

Subject Name Environmental Microbiology

Sr. No	Course content
1.	Introduction to microbiology : Scope of microbiology, Structure and classification of microbes, Role of microbes in human life and environment, Prokaryotic cell, Cytoplasm of Eukaryotes.
2.	Basic methods in microbiology : Microscopic methods, Techniques of sterilization, Media preparation, Isolation and inoculation, direct observation and staining techniques, Maintenance and preservation of cultures.
3.	Microscope and Microscopy
4.	Prokaryotes and Viruses : Brief description about Bacteria and Viruses and their role and importance in Environment.
5.	Eukaryotes : Brief description about protozoa, algae and fungi and their role and • importance in Environment.
6.	Microorganisms and Human diseases : Diseases caused by bacteria, fungi and protozoa.
7.	Microorganisms in Environment, Industry and Food : Soil microorganisms, microorganisms in aquatic habitats, microorganisms and pollution, microorganism in sewage, fermentation processes, products of industrial fermentation, Role of Microbes in Bioremediation.
8.	Control of microbes : Principles of control of microbes, uses of physical agents and chemical agents.

REFERENCE BOOKS:

1. Microbiology - by Pelczar and Ried
2. Environmental Microbiology – by Ralph Mitchell
3. Introduction to Microbiology – by A.S.Rao
4. Textbook of Environmental Microbiology by Pradipta K. Mohapatra
5. Environmental Microbiology by Banwarilal
6. Environmental Microbiology by Manish L. Shrivastva.