Syllabus of M. Sc Entrance Examination for P.G. admission on Microbiology


Microbiology of waste water: Sources of waste water- domestic, agricultural and industrial, physical, chemical and microbiological characteristics of waste water.

Waste water treatment: Single dwelling unit – septic tank: municipal waste water treatment- Primary, secondary (trickling filter, activated sludge process, oxidation pond), Tertiary (reverse osmosis, ion exchange method and dialysis) and reclamation of waste water. Solid waste recycling: Anaerobic digestion process, Biogas and composting


**Industrial Microbiology:** Microorganisms of industrial importance. Types of stock culture. Strain improvement. Fermentation media : A brief account of Production medium, Inoculum medium, Raw materials – Molasses and types, corn steep liquor, sulphite waste liquor and whey, Buffers, Precursors, Inhibitors, and Antifoam agents.


**Immunology and Medical microbiology:** introduction to immune system: Types of immunity- Innate and Adaptive Immunity. Antibody mediated immunity and Cell mediated immunity. Cells and tissues of immune system – Structure and role of primary lymphoid organs (bone marrow, thymus), secondary lymphoid organs (spleen, lymph nodes and tonsils) B&T lymphocytes, phagocytes, killer cells, NK cells.


