



**B. Sc. (MICROBIOLOGY) SEMESTER-IV
Paper-II
(Environmental Microbiology)**

UNIT-I

Indicator Organism (fecal coliform, total coliform)

<https://www.youtube.com/watch?v=DUXIWKGCKyU>

Bacteriological Test | MPN Test| E.Coli | Coliform Bacteria | Microbiology| Bacteriological Analysis

<https://www.youtube.com/watch?v=YcJdFshYNAs>

UNIT-II

Water Treatment Process

<https://www.youtube.com/watch?v=6GeahbyqVw0>

Disposal of Sewage

https://www.youtube.com/watch?v=XO7_rN079fk

Sewage Wastewater Treatment Technique | Activated Sludge System | Trickling Filter

<https://www.youtube.com/watch?v=X63ExIPS6nI>

Tertiary Treatment of Wastewater

<https://www.youtube.com/watch?v=BLZIXZEItY>

UNIT-III

Microbial Analysis of Air:

<https://www.youtube.com/watch?v=3zHuZ5dleyc>

Air Sampling Using Settle Plates:

<https://youtu.be/Na3fJoz2Ytg?si=rDUk5P3qmoGR0CuI>



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Air Sampling Procedures:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3444341/#:~:text=Passive%20monitoring%20uses%20%E2%80%9Csettle%20plates,out%20and%20are%20then%20incubated>

Symbiotic Nitrogen Fixation:

<https://www.youtube.com/watch?v=Ohbd4HCYoXg>

Root Nodule Formation | Biological Nitrogen Fixation | Rhizobium | Mineral Nutrition:

<https://youtu.be/O8WbVzXdI14?si=rhkn3TBkU4XRPHRg>

Nitrogen Fixation by Soil Bacteria:

<https://www.youtube.com/watch?v=CzmLnYRndKI>

The Nitrogen Cycle:

<https://www.youtube.com/watch?v=uip4Q6t7yfQ>

Non-Symbiotic Nitrogen Fixation:

<https://www.youtube.com/watch?v=NUGaODIE8I0>

Non-Symbiotic Nitrogen Fixation:

<https://www.youtube.com/watch?v=L2oaka46Rw4>

Biopesticides- Definition, 3 Types and Advantages:

<https://microbenotes.com/biopesticides/>

Biopesticides | Microbiology | Applied microbiology | Use of Bacteria and Fungi:

https://www.youtube.com/watch?v=_VhiojLalQ

Isolation of Phosphate Solubilizing Bacteria/ Microbes | M.Sc Microbiology Practical Series | PSM-PSB:

<https://www.youtube.com/watch?v=-qxLs3GmWXk>



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UNIT-IV

Bioremediation of Environmental Wastes: The Role of Microorganisms

<https://www.frontiersin.org/articles/10.3389/fagro.2023.1183691>

Role of Microorganism in Bioremediation:

<https://www.youtube.com/watch?v=oRBeBZcUies>

Bioremediation Principle, Methods, Techniques, Advantages and Disadvantages:

<https://www.youtube.com/watch?v=Qxqg3iHTxUE>

Bioaugmentation:

<https://www.sciencedirect.com/topics/immunology-and-microbiology/bioaugmentation>

Bioaugmentation | Biostimulation | Bioremediation:

<https://www.youtube.com/watch?v=xI4WhdbX9Cw>