

Introduction to Microbiology

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1. Introduction

- Microbiology is the study of microorganisms, organisms too small to see with the naked eye.
- It is essential to medicine, public health, agriculture, and industry.

2. Major Groups of Microorganisms

- **Bacteria:** single-celled prokaryotes without a true nucleus.
- **Viruses:** non-cellular particles that replicate only inside host cells.
- **Fungi:** eukaryotes including yeasts and moulds.
- **Protozoa:** single-celled eukaryotes, some of which cause disease.

3. Importance of Microorganisms

- Many are beneficial: decomposition, fermentation, and normal flora that protect the body.
- Some are pathogens that cause infectious disease.

4. Tools of Microbiology

- The microscope to visualise microbes.
- Culture media to grow and isolate them.
- Staining techniques such as the Gram stain to classify bacteria.

5. Summary

- Microbiology studies diverse microorganisms, most beneficial and some harmful, using microscopy, culture, and staining.