

II. HISTORICAL BACKGROUND

Pioneers in Microbiology:

1. Antonie van Leeuwenhoek (1670s)

- First to observe microorganisms using a simple microscope.
- Called them "animalcules."

2. Louis Pasteur (1822–1895)

- Disproved spontaneous generation with swan-neck flask experiment.
- Developed pasteurization and vaccines (rabies, anthrax).
- Father of **Germ Theory of Disease**.

3. Robert Koch (1843–1910)

- Established **Koch's Postulates** to link specific microbes with specific diseases.
- Discovered causative agents of tuberculosis and cholera.

4. Joseph Lister – Introduced antiseptic surgical techniques.

5. Alexander Fleming – Discovered penicillin (1928).

III. BRANCHES OF MICROBIOLOGY

1. **Bacteriology** – Study of bacteria.

2. **Virology** – Study of viruses.

3. **Mycology** – Study of fungi (yeasts and molds).

4. **Parasitology** – Study of protozoa and parasitic worms.

5. **Phycology** – Study of algae.

6. **Immunology** – Study of immune systems and response to microbes.

7. **Microbial Genetics** – Study of genetic mechanisms in microbes.

8. **Industrial Microbiology** – Use of microbes in industrial applications (e.g., fermentation).