

# Microbiology

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**2019/2020**

**PharmD Program \ first year**

# Introduction

- **In the thirteenth century, it has been postulated that invisible living creatures produce disease.**
- **Microbiology is the study of living organisms of microscopic size.**

**-micro=tiny -bio=alive -logy=science**



- **These microorganisms' are widely distributed in nature and some of them are beneficial to men and some of them are harmful (pathogenic).**



- **Microorganisms are involved in production of 50% of carbon and 90% of nitrogen.**
- **Society gets benefit from microorganisms by their use in bread, cheese, vaccines and antibiotics production.**

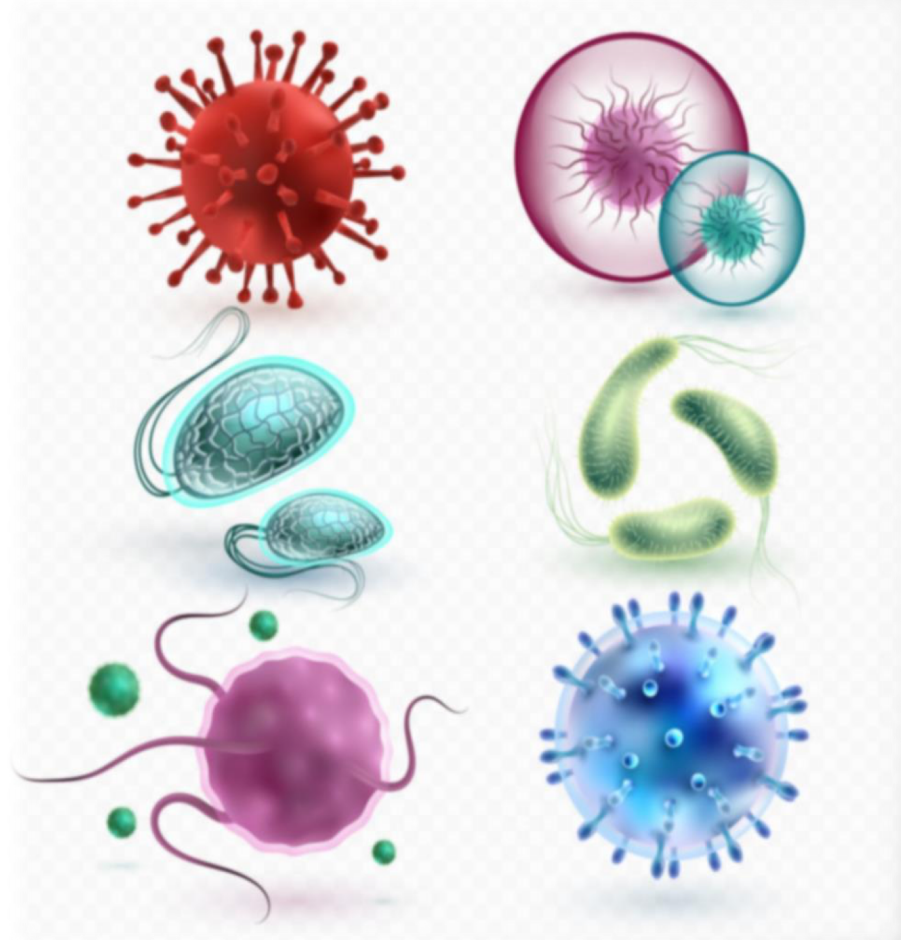




# Microbiology can be divided into two branches: pure and applied.

## Some of the pure science:

- **Viruses: virology**
- **Bacteria: bacteriology**
- **Fungi: mycology**
- **Parasites: parasitology**
- **Immunity: immunology**
- **Algae: phycology**
- **Protozoa: protozoology**



# **Some of the applied science:**

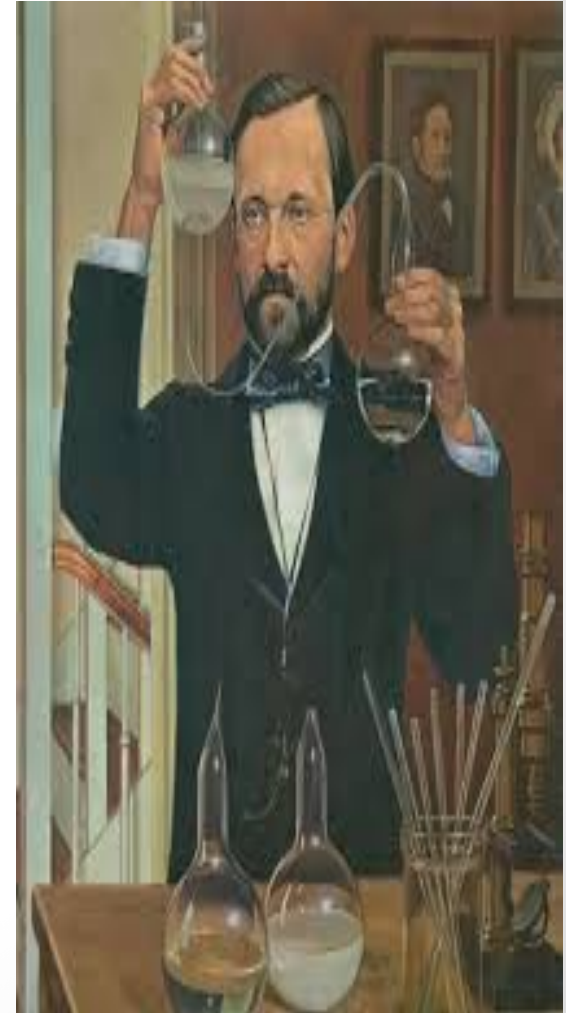
- **Medical microbiology: deals with the study of causative agents of infectious diseases.**
- **Pharmaceutical microbiology: deals with the study of microorganisms which are responsible for production of antibiotics.**

- **Food microbiology: deals with the interaction of microorganisms and food in the relation to food processing food spoilage food born diseases.**
- **Industrial microbiology: is the study of industrially useful microorganisms in the production of vitamins, amino acids and enzymes.**



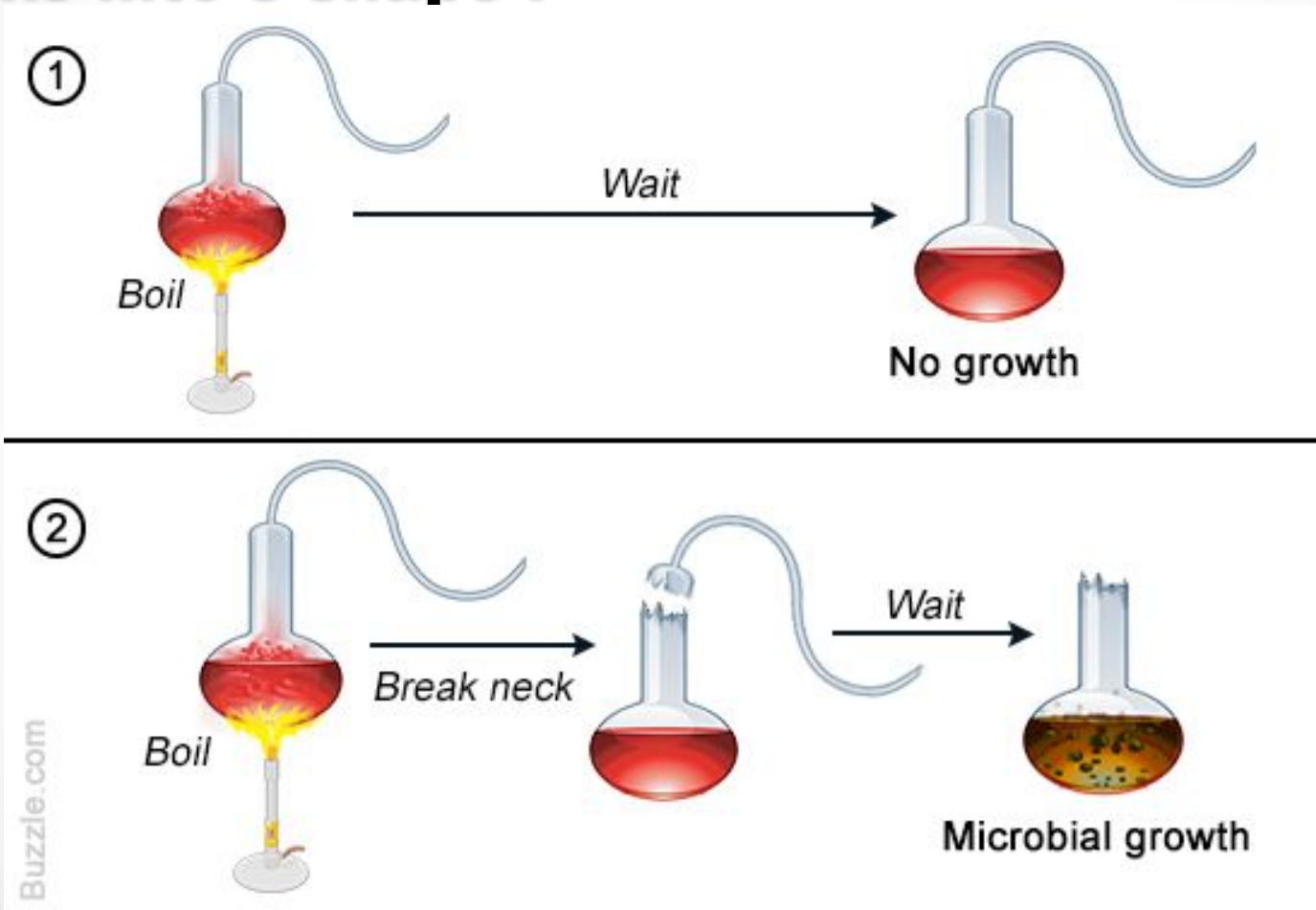
# Spontaneous generation conflict:

- **From the earliest times, people believed that living organisms could developed from nonliving of decomposing matter.**
- **Louis Pasteur (1822-1895) settled the conflict once for all: heated the necks of flasks and drew them out.**





**He set up two experiments in both he added nutrient broth to flasks bent the necks of the flasks into s shape .**





# References:

- <https://www.biography.com/scientist/louis-pasteur>
- [\*\*https://www.studocu.com/philippines/mindanao/bs-biology/summaries/chapter-1-general-microbiology/5279104/view?fbclid=IwAR24i3MhE5L3TuTtusxp1\\_E576i0Ng6\\_eqWZM4PdQ1hugpdYe9ccDt1Nea0\*\*](https://www.studocu.com/philippines/mindanao/bs-biology/summaries/chapter-1-general-microbiology/5279104/view?fbclid=IwAR24i3MhE5L3TuTtusxp1_E576i0Ng6_eqWZM4PdQ1hugpdYe9ccDt1Nea0)
- [\*\*https://www.slideshare.net/ananthatiger/microbiology-lec1\*\*](https://www.slideshare.net/ananthatiger/microbiology-lec1)