



## Introduction and definitions of terms

### **Biology: The - life science**

The word biology derived from Greek word, bios (life) and logos (study)

Biology is the natural science that studies life and living things, including their physical structure, chemical process, molecular interaction, physiological mechanisms, development and evolution.

The main branches fall within biology are zoology and botany, together constitute biology.

**Zoology:** is the science of animals.

**Botany:** is the science of plants.

### **Subdivisions of Zoology:**

- ❖ **Cytology (cell biology):** branch of biology that studies the structure and function within cells.
- ❖ **Histology (microanatomy):** is the branch that studies of the anatomy of cells and tissues of plant and animals using microscopy.
- ❖ **Histopathology:** the microscopic study of disease tissue, especially for accurate diagnosis of cancer.
- ❖ **Anatomy:** is the branch of biology concerned with the study of the structure of the animal and plants.
- ❖ **Pathology:** is the study of nature of disease, causes, and symptom.



- ❖ **Physiology:** is the branch relating to the function of organs and how they work within the body including all physical and chemical process.
- ❖ **Genetics:** the science of heredity, dealings with resemblances and differences of related organisms resulting from the interaction of their genes and the environment.
- ❖ **Embryology:** the science dealing with the formation, development, structure and functional activities of embryos.
- ❖ **Biochemistry:** is the study of the chemical reactions that take place inside organisms, it combines elements from both biology and chemistry.
- ❖ **Molecular biology:** the branch of biology that deals with nature of biological phenomena at the molecular level of DNA and RNA, protein and other macromolecules involved in genetic information and cell function.
- ❖ **Biophysics:** the branch of biology that applies the methods of physics to the study of biological structures and processes.
- ❖ **Zoogeography:** the science dealing with geographical distribution of animal.
- ❖ **Ecology:** the branch of biology dealing with the relation and interaction between organism and their environment.
- ❖ **Evolution:** change in the gene pool of population from eneration to generation by such processes as mutation, normal selection and genetic drift.
- ❖ **Paleontology:** the science that deals with the fossils of animals and plants that lived very long ago, or study of ancient life.
- ❖ **Microbiology:** is the study of all living organism that are too small to be visible with the naked organism, such as bacteria , viruses, fungi, and protozoa.



- ❖ **Immunology:** is a branch of biology dealing with the study of immune systems.
- ❖ **Parasitology:** the branch of biology dealing with the parasites and the effect of parasitism.
- ❖ **Bacteriology:** a branch of microbiology dealing with the identification and cultivation of bacteria and their applications in medicine agricultural, including and biotechnology.
- ❖ **Virology:** the science dealing with the study of viruses and diseases caused by them.
- ❖ **Mycology:** the branch of biology dealing with fungi.

