THE BRANCHES OF SCIENCE

THE PHYSICAL SCIENCES

- PHYSICS: The study of matter and energy and the interactions between them. Physicists study such subjects as gravity, light, and time. Albert Einstein, a famous physicist, developed the Theory of Relativity.
- CHEMISTRY: The science that deals with the composition, properties, reactions, and the structure of matter. The chemist Louis Pasteur, for example, discovered pasteurization, which is the process of heating liquids such as milk and orange juice to kill harmful germs.
- ASTRONOMY: It is the scientific study of celestial bodies such as stars, comets, planets and galaxies and phenomena that originate outside the Earth's atmosphere such as the cosmic background radiation.;
- **COSMOLOGY**: it deals with the nature of universe, its origin and overall structure.

THE EARTH SCIENCES

- **GEOGRAPHY**: It includes the study of the earth as well as its features phenomena and inhabitants. It also deals with climate, topography, vegetation and soil.
- GEOLOGY: This branch of science involves the study of origin, history, evolution and structure of the earth's crust. It also involves the examination of soil and rocks.
- OCEANOGRAPHY: The exploration and study of the ocean.
- **PALEONTOLOGY:** The science of the forms of life that existed in prehistoric or geologic periods.
- METEOROLOGY: The science that deals with the atmosphere and its phenomena, such as weather and climate.

- CLIMATOLOGY: It involves the study of climatic data, analysis of climatic changes and investigations of its phenomena and causes.
- MINERALOGY: the study of the chemistry, crystal structure, and physical (including optical) properties of minerals
- HYDROLOGY: It deals with distribution, occurrence, properties, chemistry and circulation of water on the earth. It includes the study of streams, rivers, lakes, etc
- MINERALOGY: It is a scientific discipline that includes the study of chemical composition, physical properties, internal crystal structure, origin, occurrence and distribution in nature of different minerals.
- **SEISMOLOGY**: It is a scientific investigation of earthquakes as well as structure of the earth, based on the study of seismic waves.

THE LIFE SCIENCES (BIOLOGY)

• **BOTANY:** The study of plants.

Hydroponics: It is a branch of science that deals with growing the plants, particularly vegetables, in water containing essential mineral nutrients, instead of in soil.

Mycology: It is a branch of botany that includes the study of fungi and fungal infection. It involves the study of fungi, their taxonomy, their biochemical and genetic properties and their use to humans as a source for food, medicine and tinder.

Pomology: It is a branch of science that includes the study of fruits and cultivation of fruits.

• **ZOOLOGY:** The science that covers animals and animal life.

Serpentology: It is a branch of zoology, which deals with the study of snakes.

Ichthyology: It is the study of fish.

Entomology: It is a branch of science that includes the study of insects in their relations to forests and forest products.

Mammalogy: It is a branch of zoology that includes the study of mammals.

Protozoology: It is a branch of zoology that deals with the study of protozoans.

Ornithology: It is a branch of zoology that includes the study of birds.

- GENETICS: It is a branch of biology that focuses on the heredity and variation of organisms as well as the patterns of inheritance of specific traits.
- MEDICINE: It is the science of maintaining and/or restoring human health through the study, diagnosis and treatment with non-surgical techniques.

Cardiology: It deals with study, diagnosis and treatment of various disorders of heart and major blood vessels.

Dactylography: It is the science of using the fingerprints for the purpose of identification.

Dermatology: It is a branch of medicine that deals with the skin disorders such as moles, skin cancers, contact dermatitis, psoriasis and other skin conditions, related to other diseases. It also includes the disorders of hair, nails, mouth and external genitalia.

Dentistry: This branch of medicine deals with diagnosis, treatment and prevention of the diseases associated with teeth, oral cavity and related structures.

Hepatology: This branch of medical science incorporates the study of functions and disorders of liver as well as biliary tree, gallbladder and pancreas.

Hematology It is a branch of medical science that includes the study of function and disease of blood as well as diagnosis and treatment of disorders of blood, lymph glands and spleen.

Gynecology: It is a discipline of medicine that is concerned with disorders of women, particularly reproductive and sexual function and diseases of reproductive organs.

Nephrology: It is a discipline of medical science that focuses on diagnosis and treatment of various kidney disorders, including fluid and mineral balance.

Therapeutics: It is the science of healing or medical treatment of disease.

Endocrinology: It is a branch of medical science that is associated with the study of function and pathology of endocrine glands.

Forensic Science: It is a branch of medical science that deals with establishing the evidence for legal proceeding.

Obstetrics: This branch of medicine deals with the health and care of a woman and fetus during pregnancy, parturition and puerperium.

Ophthalmology: It is a branch of medical science that includes the study of structure, function and diseases of the eyes, such as conjunctivitis, cataracts, glaucoma, etc.

Pharmacology: It involves the study of drugs/medications and their nature, origin, properties as well as their effects on living organisms.

Pathology: It is a medical discipline that is related to cause and nature of disease. It mainly involves structural and functional changes in tissues and organs caused by the disease.

Immunology: It deals with the study of diseases and body's immune system and its functions.

Etiology: It is the study of causes or origins of disease/abnormal condition.

Radiology: It is a medical discipline that focuses on using radiation and other radioactive substances to diagnose and treat various diseases.

- AGRICULTURE: It is the science of cultivating the ground, harvesting the crops and rearing and management of farming, husbandry and livestock. It is associated with the production of food, fiber, feed and other goods by systematic harvesting or growing the plants and rearing the animals.
- CRANIOLOGY: This branch of science is related to the study of physical characteristics of the skulls of different human races.
- ANATOMY: It is a branch of biology, related to the study of structure and organization of living things. It involves human anatomy, plant anatomy (phytotomy) and animal anatomy (zootomy).

Neurology: It is related to the structure, functioning and disorders of nervous system including the brain, spinal cord, as well as related muscles, nerves and blood supplies.

and function of muscles and muscle tissues.

Osteology: It is a branch of anatomy, which involves the scientific study of structure, functions and pathology of bones.

 ANGIOLOGY: It is the science that includes the study of blood and lymph vessels and their disorders.

- PALEONTOLOGY: It is a branch of biology that deals with the study of prehistoric life, based mainly in fossils of animals and plants.
- BIOTECHNOLOGY: It is associated with the industrial application of living organisms and/or biological techniques developed through basic research. is applied for Biotechnology producing pharmaceutical compounds and research materials. It is mainly applied in genetic engineering and recombinant DNA technology.
- ECOLOGY: It includes the study of interrelationships between living organisms and their environment.
- PHYSIOLOGY: This branch of biology deals with the study of physical, biochemical and mechanical functions and activities of living organisms.
- TAXONOMY: It is the science of classifying all the living things by arranging them in groups according to their relationships with each other.
- CYTOLOGY: It is a branch of biological science that is associated with the study of structure, origin, function and pathology of cells.

Histology: It includes the study of structure and behavior of cells and body tissues, using microscopic examination of tissue slices

Myology: This science includes the study of structure • MICROBIOLOGY: It is a branch of biology that is concerned with the study of structure and function of microorganisms, including bacteria, moulds and pathogenic protozoa.

> Virology: It is a discipline of microbiology or pathology, which includes the study of evolution, structure, classification and pathogenesis of viruses.

> Bacteriology: the study of bacteria in relation to disease