Ch -1

SCOPE OF ANATOMY & PHYSIOLOGY

Anatomy

The study of body structures is called anatomy. Body structure includes size, coloration, shapes, and compositions as well. The structure, structure, size, and location of various parts of your body are studied during this field of biomedical science. While studying human anatomy, the study of individual parts along with their relations is also studied. Shortly, it is the study of the structure and interactions of the organ systems within the body.

Anatomy is subdivided into the following sections:

- 1. **Gross anatomy** The study of body structures that are visible to naked eyes.
- 2. **Microscopic Anatomy** An anatomical study that involves using modern microscopes to examine surfaces of structures, including examination of cells (cytology) and tissues (histology).
- **3. Developmental anatomy** Growth, and development of the human body are studied in this field.
- **4. Pathological anatomy** The study that involves the examination and study of diseased body parts or a whole affected body.
- **5. Systemic anatomy** The anatomical study that involves the study of body systems. (body systems contain different organs that have a similar function).

Along with this, there are some more ways to study anatomy such as:

- 1. **Palpation:** In this study, you can study the body part by feeling it with your hands. For example, pulse, swollen body parts, etc.
- 2. **Auscultation:** This study includes listening to natural sounds of the body. For example heartbeats breathe sounds, abnormal sounds in the heart that coincides with the heartbeat, etc.
- 3. Percussion: This is the study of physical examination that takes place by tapping hands, fingers, or instruments on body parts. Small instruments for noting echo sounds are widely used in percussion to know the abnormal air or fluid pockets. Normally it is used to check the presence or absence of fluid in certain body parts.

Physiology

Human physiology is a biomedical science that deals with the normal functioning of various organs in the human body. It is the study of body functions. There's a study of individual body-part functions, how their actions affect the whole body, and how their functions are integrated to produce coordinated functions in the whole body. Shortly it is a study of coordinated functions of body parts to synchronize all the activities of the whole body.

For example – the physiology of liver cells includes their functions of the cells, how they do it, the relation of their functions to the body, etc.

Physiology is divided into the following subdivisions:

- 1. Plant and human physiology It is a study based on the type of organism.
- 2. Molecular and cellular physiology It is a study based on an organizational level.
- 3. Respiratory physiology, neurophysiology, etc. It is a study based on specific systems.

Anatomical Positions

Anatomical position is a term used to specify the exact position of the body, its movements, its posture, or the relationship between different parts of the body.

Directional terms are as follows:

Anterior and posterior positions: Anterior position means the front side (ventral side) of the body while posterior position means the backside (dorsal side) of the body. **For example** – kneecaps are located at the anterior position while shoulders are located at the posterior position.

Superior and inferior positions: superior positions mean the upward position (towards your head) while the inferior means the downward position (towards your feet). **For example** – your hands are in a superior position while your feet are in an inferior position.