

Summary on Chapter 1

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1 Anatomy and physiology

Two branches of science - anatomy and physiology provide the foundation for understanding the body's parts and functions.

1.1 Anatomy

Anatomy is the science of body structures and the relationship among them.

1.2 Physiology

Physiology is the science of body functions like how the body parts work.

2 Levels of structural organization and body systems

2.1 Chemical level

this is the very basic level. It includes atoms and molecules. Deoxyribonucleic acid (DNA) and glucose are two familiar molecules found in the body.

2.2 Cellular level

molecules combine to form cells, the basic structural and functional units of an organism composed of chemicals.

2.3 Tissue level

tissue are groups of cells and the materials surrounding them that work together to perform a particular function.

2.4 Organ level

Orgaqsns are structures that are composed of two or more different types of tissues Ex-heart.

2.5 System level

System consists of related organs with a common function.Ex-digestive system.

2.6 Organismal level

all the parts of the human body functioning together.

3 characteristics of the living human organism

3.1 Metabolism

sum of all the chemical processes that occur in the body.

3.2 Responsiveness

Body's ability to detect and respond to changes.

3.3 Movement

Motion of the whole body

3.4 Growth

Increase in body size that results from an increase in the size of existing cells,an increase in no. of cells, or both.

3.5 Differentiation

Development of a cell from an unspecialized to a specialized state.

3.6 Reproduction

It is either the formation of new cells for tissue growth, repair, or replacement or the production of a new individual.

4 Homeostasis

It is the maintenance of relatively stable conditions in the body's internal environment. It occurs because of the ceaseless interplay of the body's many regulatory system.

4.1 Feedback system

Cycle of events in which body condition is monitored, evaluated, changed, remonitored and so on. basic components are the receptor, control center, and effector.

4.1.1 Negative feedback system

Reverses a change in controlled condition. ex- regulation of blood pressure.

4.1.2 Positive feedback system

tends to strengthen or reinforce a change in one of the body's controlled conditions. ex- childbirth, blood clotting.