SNS COLLEGE OF ALLIED HEALTH SCIENCE

Affiliated to The Tamil Nadu Dr MGR Medical University, Chennai

DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE TECHNOLOGY

COURSE NAME: Anatomy

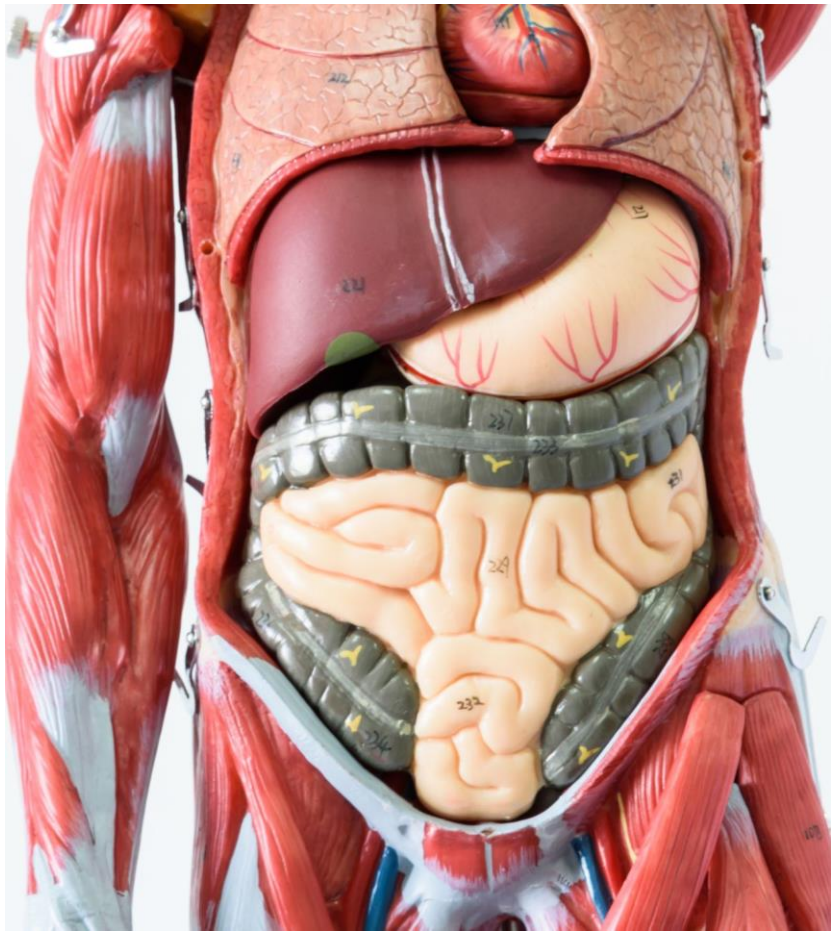
UNIT I – Introduction to Anatomy

TOPIC: Organ System and its Function

FACULTY NAME: Mrs. Saranyaa Prasath

Introduction to Organ Systems

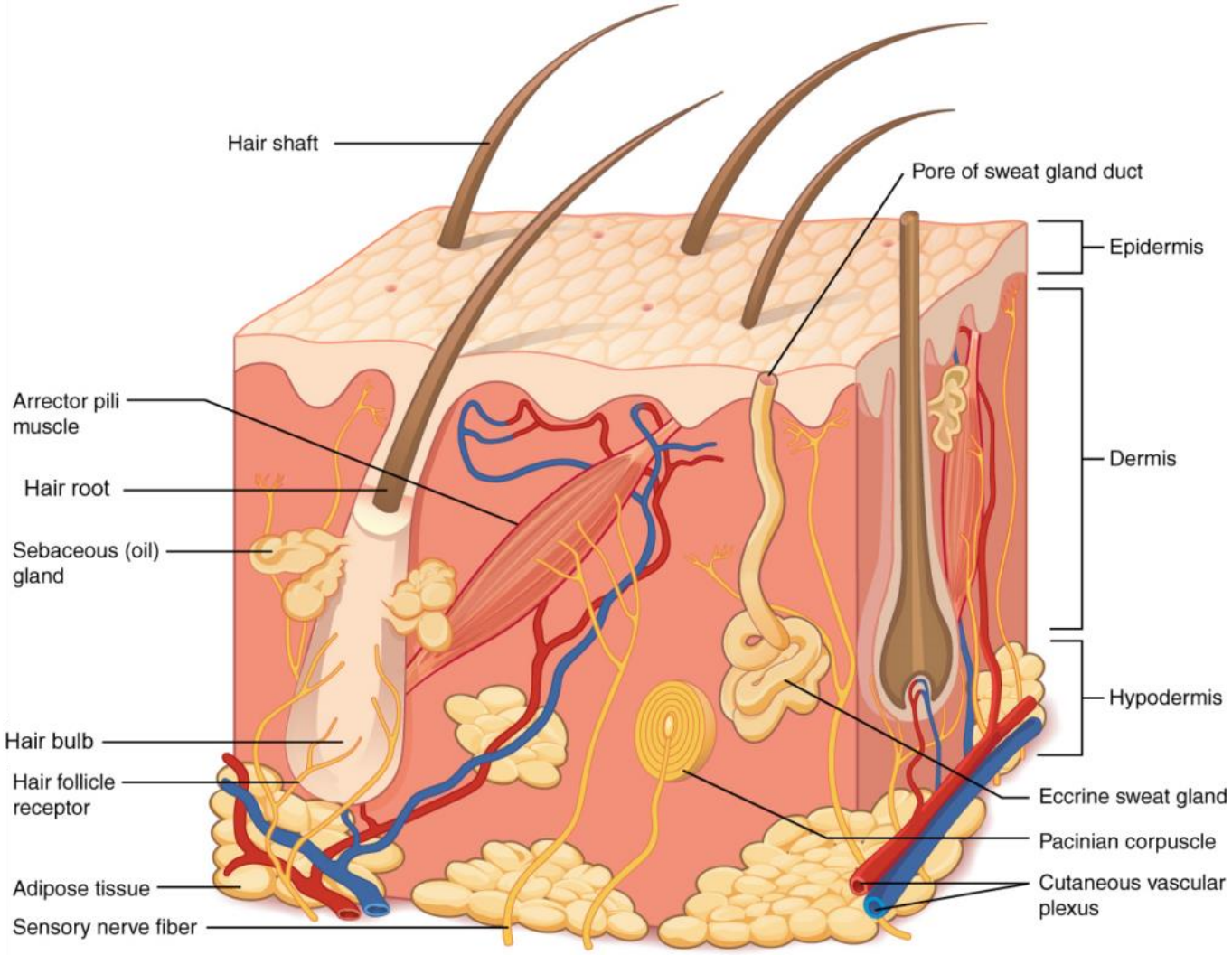
- Group of organs working together to perform complex bodily functions.
- Importance of organ systems in maintaining homeostasis and overall health.
- Brief mention of 11 major human organ systems.



Integumentary System

- **Components:** skin, hair, nails, sweat glands, sebaceous glands.

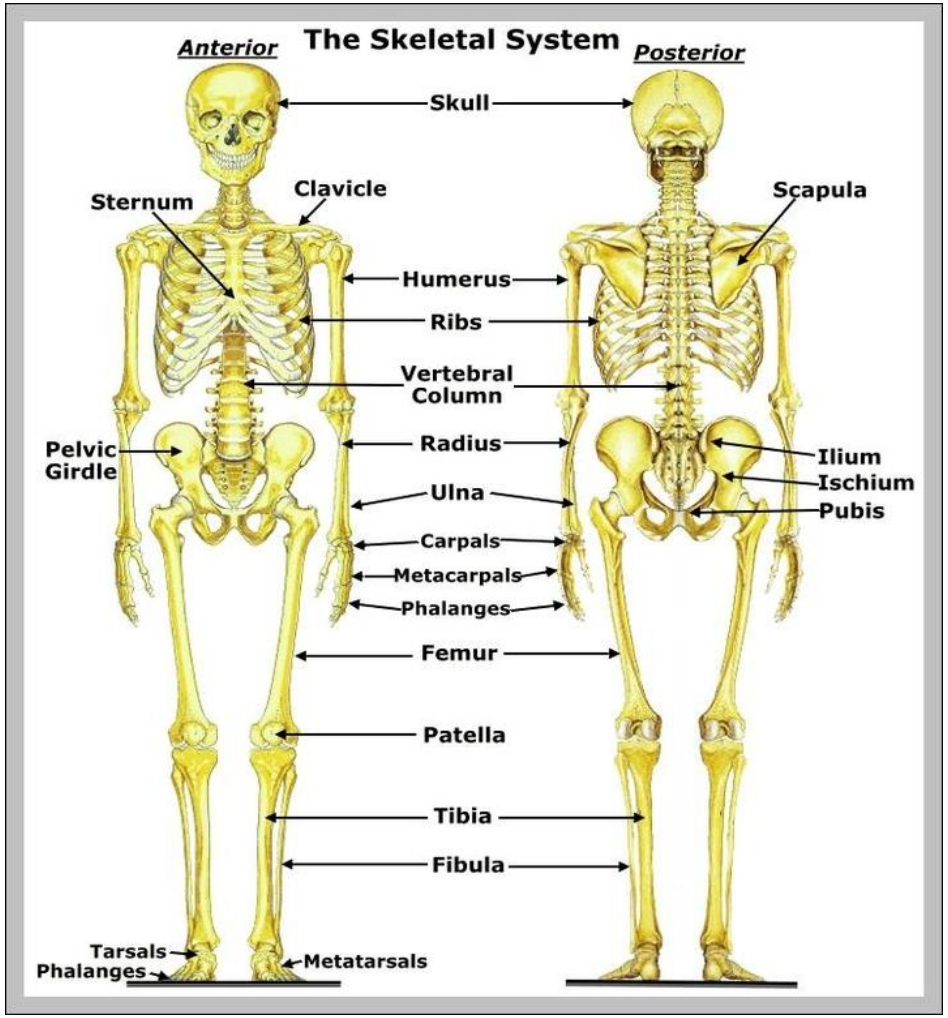
- **Functions:** protection from external environment, temperature regulation, sensation, vitamin D synthesis.



Skeletal System

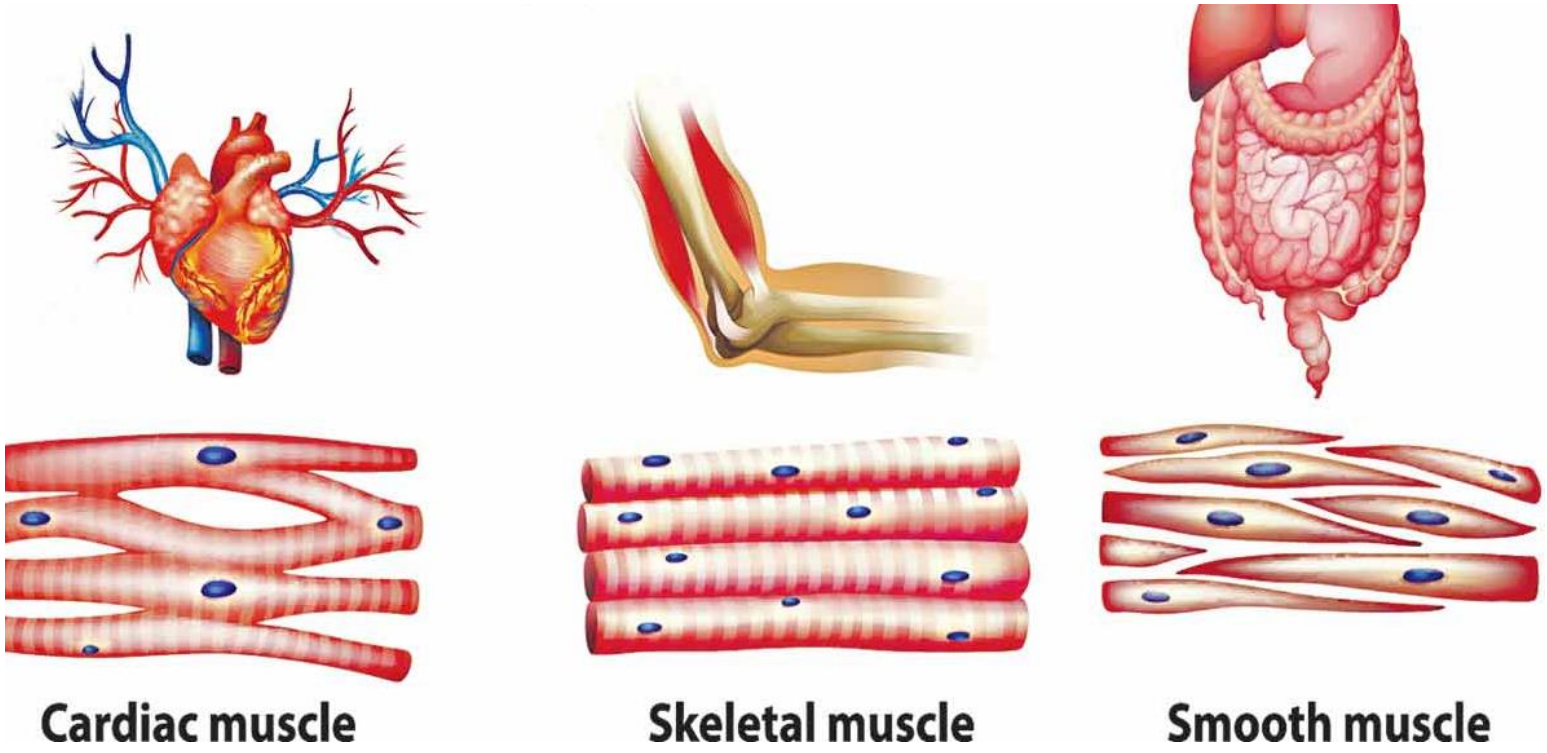
- **Components:** bones, cartilage, ligaments, joints.

- **Functions:** support and structure, protection of internal organs, blood cell production, mineral storage.



Muscular System

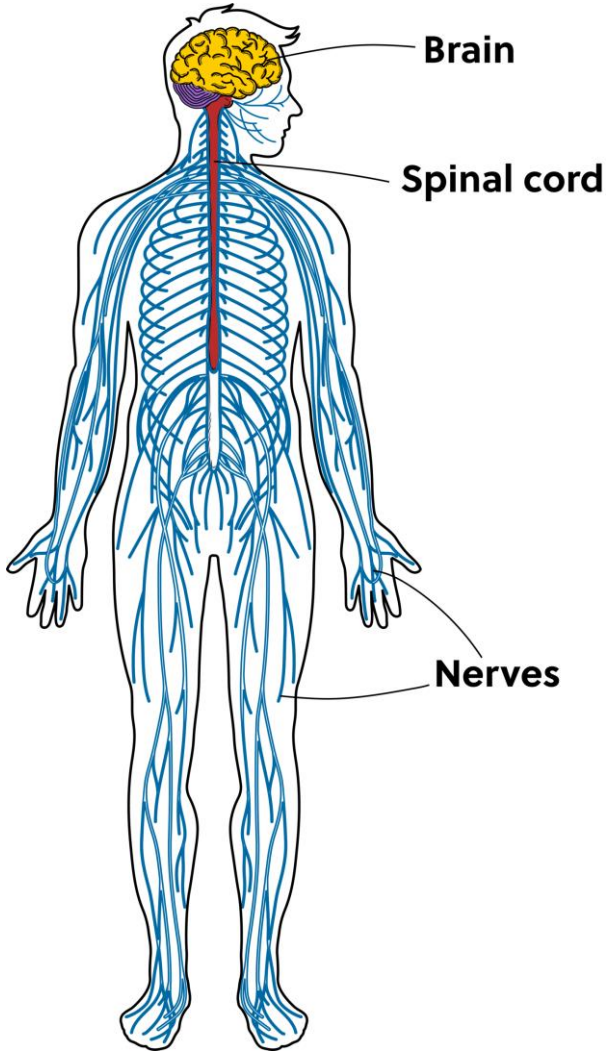
- **Components:** skeletal muscles, smooth muscles, cardiac muscle.
- **Functions:** movement and locomotion, posture maintenance, heat production.



Nervous System

- **Components:** brain, spinal cord, nerves, sensory organs.

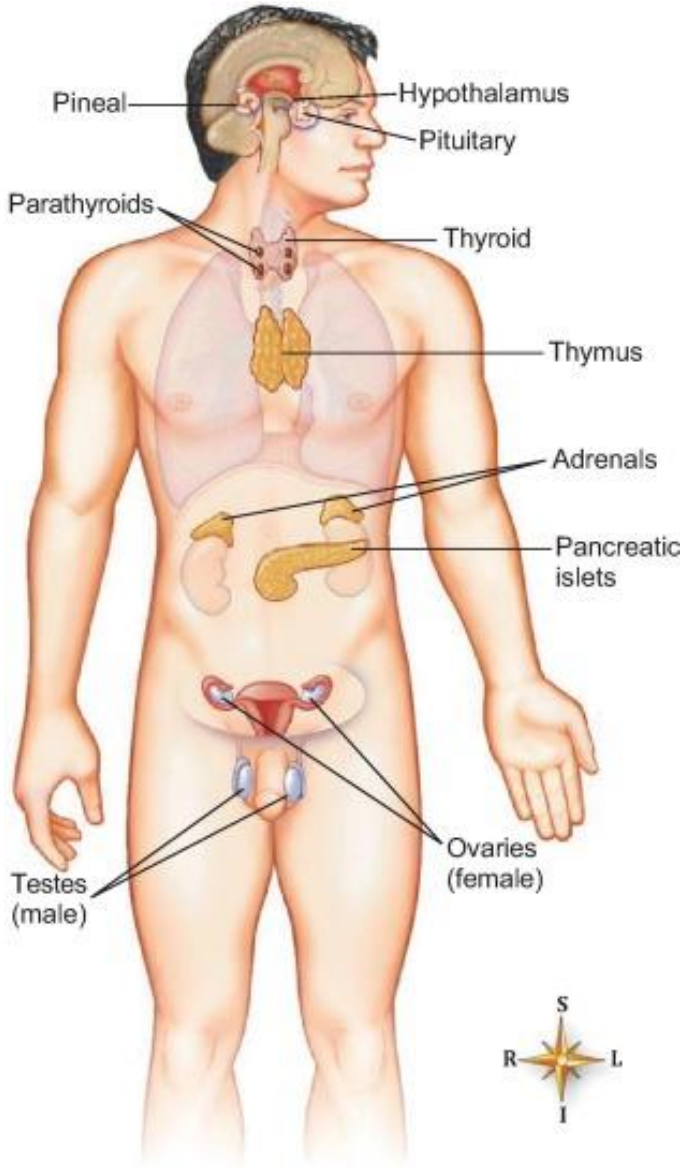
- **Functions:** sensory input, coordination of body activities, memory, emotion regulation, motor control.



Endocrine System

- **Components:** glands such as pituitary, thyroid, adrenal, pancreas, ovaries, testes.

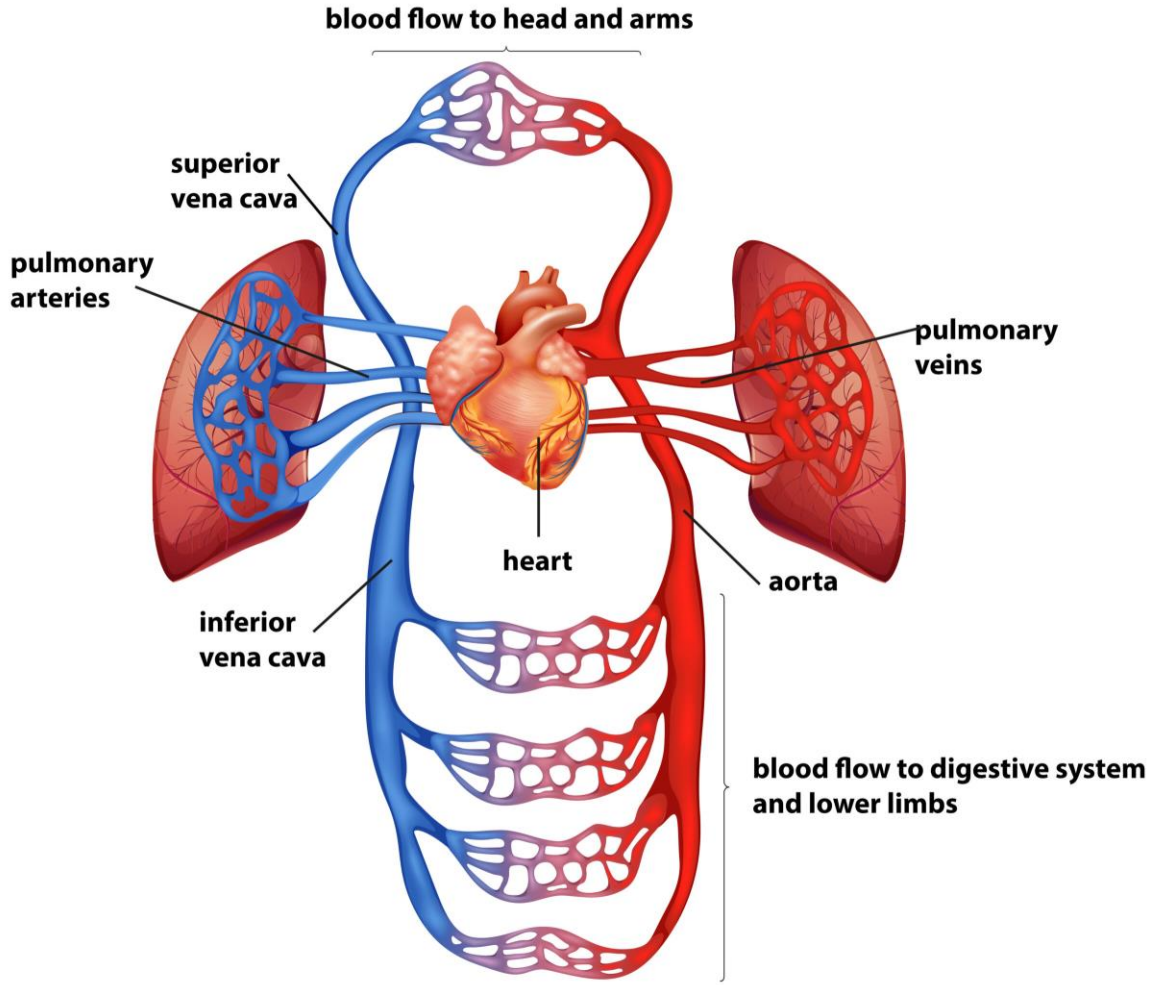
- **Functions:** hormone production and secretion, regulation of metabolism, growth, development, reproduction.



Cardiovascular System

- **Components:** heart, blood, arteries, veins, capillaries.

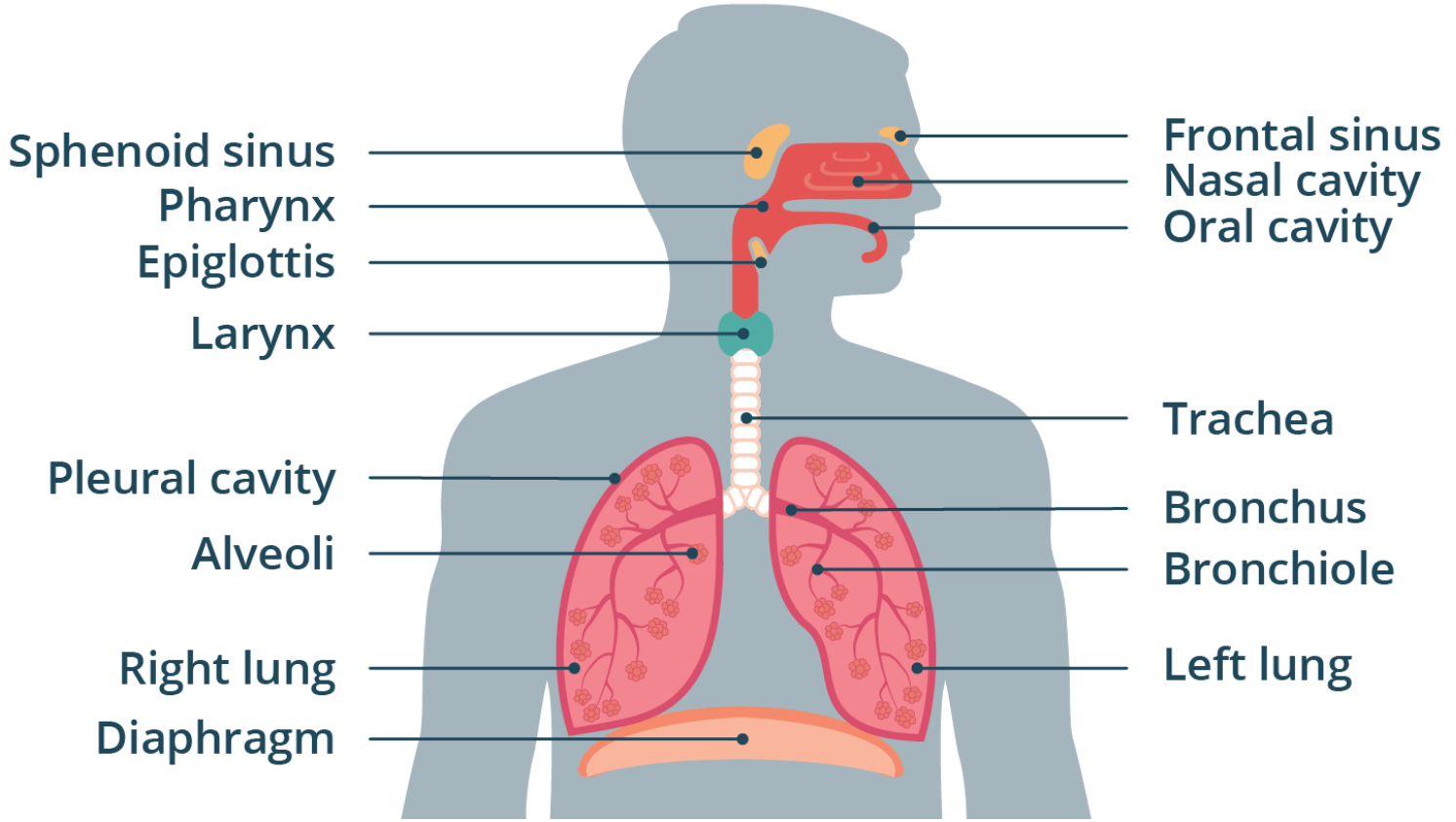
- **Functions:** transport of oxygen, nutrients, hormones, waste products; regulation of temperature and pH.



Respiratory System

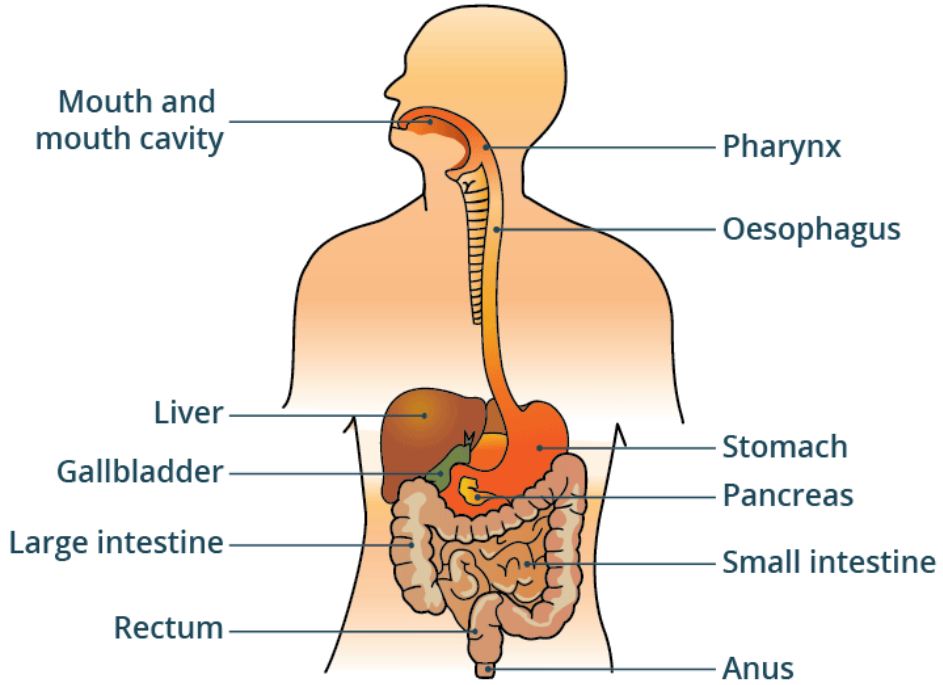
- **Components:** nose, pharynx, larynx, trachea, bronchi, lungs, diaphragm.

- **Functions:** gas exchange (oxygen in, carbon dioxide out), regulation of blood pH.

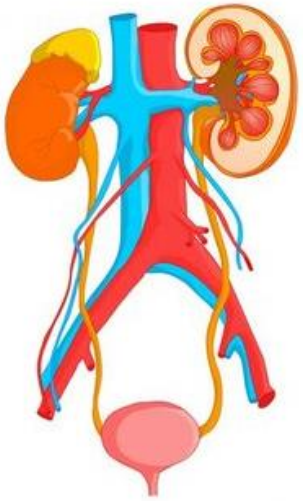


Digestive and Urinary Systems

- **Digestive:** mouth, esophagus, stomach, intestines, liver, pancreas, gallbladder.
- **Functions:** ingestion, digestion, absorption of nutrients, elimination of solid waste.

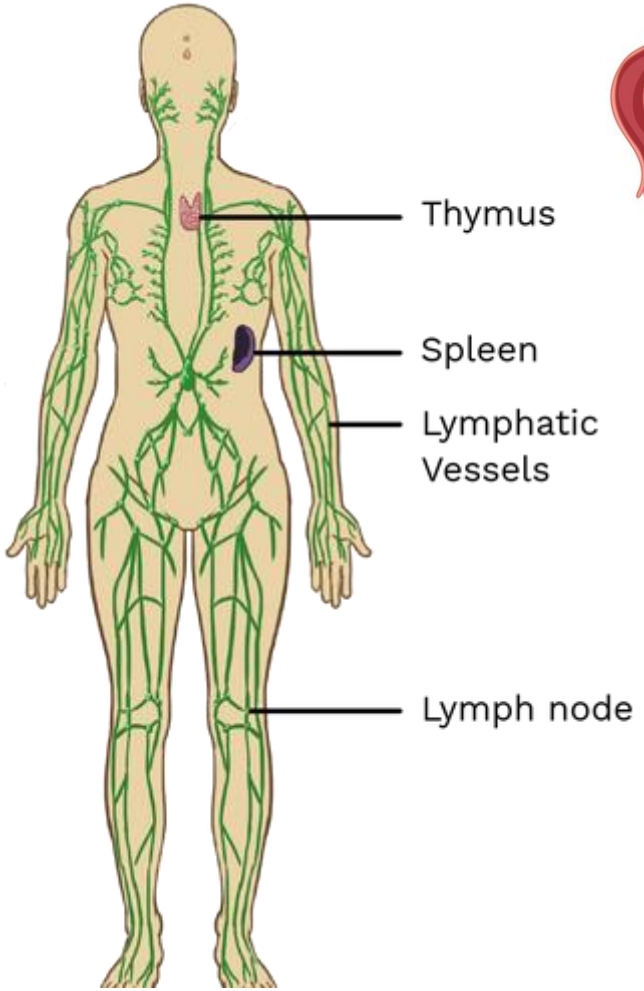


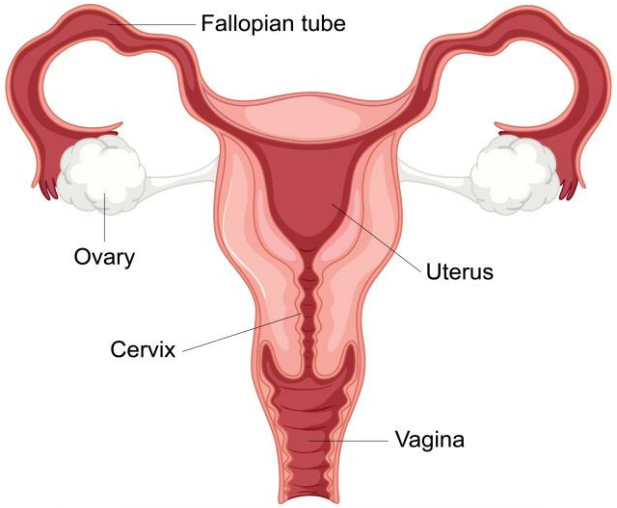
- **Urinary:** kidneys, ureters, bladder, urethra.
- **Functions:** waste excretion, blood filtration, fluid and electrolyte balance.

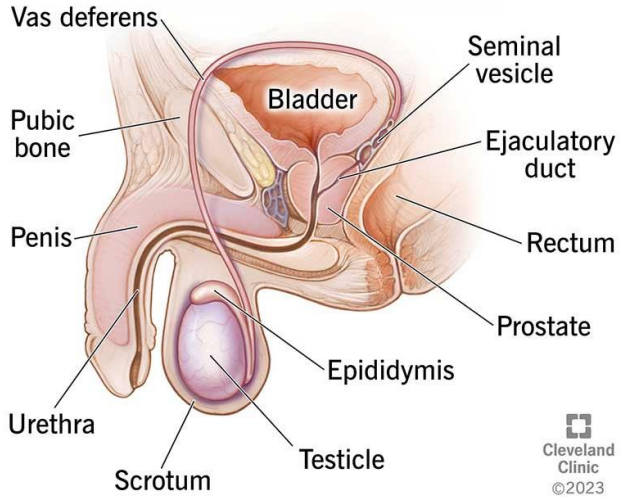


Lymphatic and Reproductive Systems

- **Lymphatic:** lymph vessels, lymph nodes, spleen, thymus.
- **Functions:** immune response, fluid balance, fat absorption.

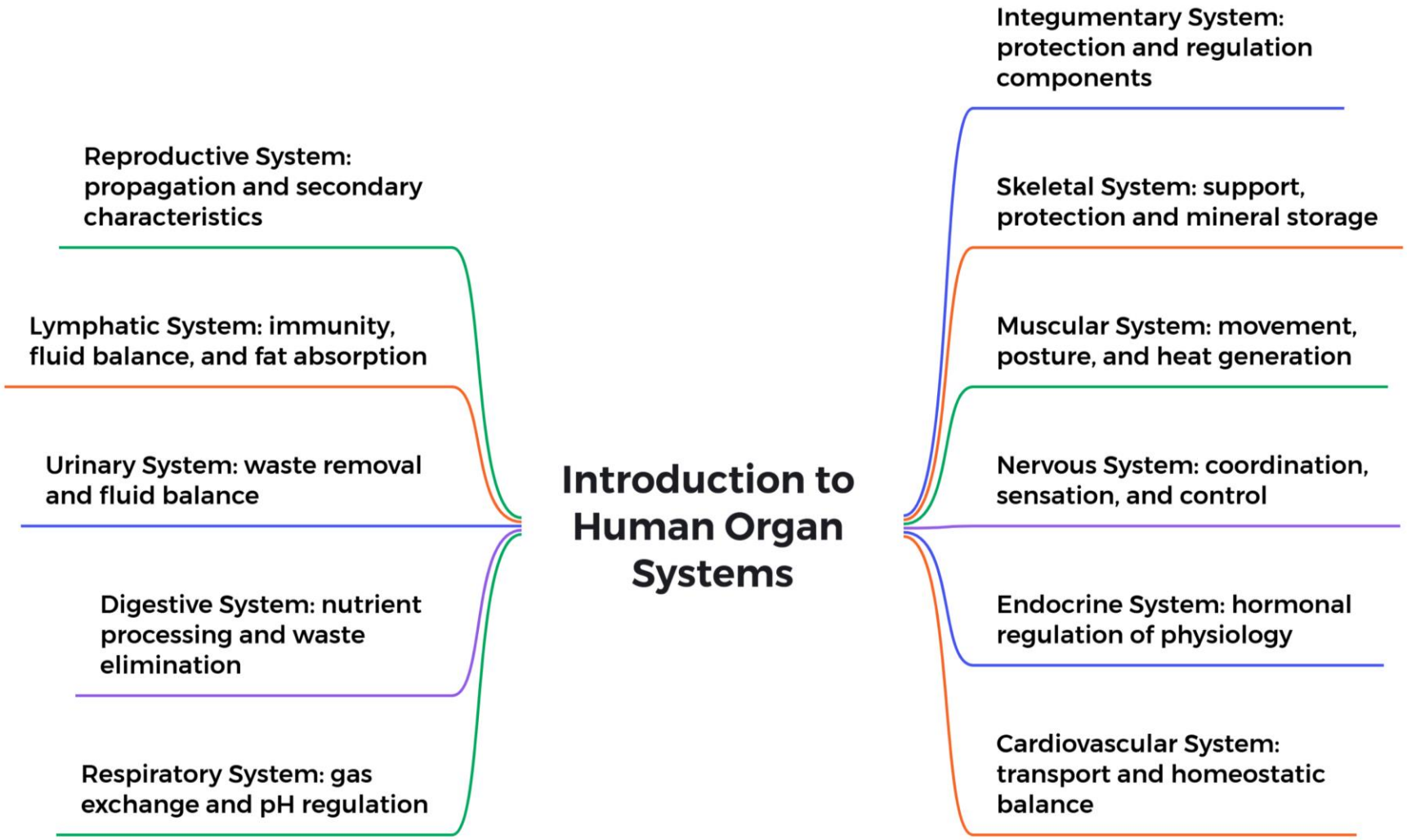






- **Reproductive:** male and female sex organs.
- **Functions:** production of gametes, hormone secretion, reproduction.

Summary


Introduction to Human Organ Systems
Integumentary System: protection and regulation components
Skeletal System: support, protection and mineral storage
Muscular System: movement, posture, and heat generation
Nervous System: coordination, sensation, and control
Endocrine System: hormonal regulation of physiology
Cardiovascular System: transport and homeostatic balance
Reproductive System: propagation and secondary characteristics
Lymphatic System: immunity, fluid balance, and fat absorption
Urinary System: waste removal and fluid balance
Digestive System: nutrient processing and waste elimination
Respiratory System: gas exchange and pH regulation

References

- https://www.kenhub.com/en/library/anatomy/human-body-systems
- https://www.verywellhealth.com/organ-system-1298691
- https://my.clevelandclinic.org/health/articles/organs-in-the-body
- https://study.com/academy/lesson/what-is-an-organ-system-definition-pictures-quiz.html
- https://bio.libretexts.org/Bookshelves/Human_Biology/Human_Biology_(Wakim_and_Grewal)/10:_Introduction_to_the_Human_Body/10.4:_Human_Organs_and_Organ_Systems
- https://byjus.com/biology/human-body-anatomy/
- https://www.britannica.com/science/human-body

THANK YOU