

# Introduction to Anatomy and Physiology

Biology · Practice Test · 39 Questions

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**1. What is the scientific study of the structure of living organisms called?**

- A) Physiology
- B) Anatomy
- C) Cytology
- D) Histology

**2. Which subdivision of anatomy requires a microscope to view structures like cells and tissues?**

- A) Gross anatomy
- B) Developmental anatomy
- C) Microscopic anatomy
- D) Regional anatomy

**3. Physiology is the study of what aspect of living organisms?**

- A) Structure
- B) Function
- C) Growth
- D) Reproduction

**4. What is the basic unit of life according to the structural organization of the human body?**

- A) Molecule
- B) Atom
- C) Cell
- D) Tissue

**5. Which level of structural organization involves atoms and molecules?**

- A) Chemical level
- B) Cellular level
- C) Tissue level
- D) Organ level

**6. What is the process of all chemical reactions in the body called?**

- A) Catabolism
- B) Anabolism
- C) Metabolism
- D) Responsiveness

**7. Which of the following is a requirement for human life?**

- A) Movement
- B) Reproduction
- C) Oxygen
- D) Organization

**8. What is the primary function of the respiratory system?**

- A) Voice production
- B) Olfaction
- C) Gas Exchange
- D) Temperature regulation

**9. Which part of the respiratory system filters, warms, and moistens air?**

- A) Pharynx
- B) Larynx
- C) Trachea
- D) Nose/Nasal cavity

**10. What is the primary function of the alveoli in the lungs?**

- A) Producing sound
- B) Filtering air
- C) Gas exchange
- D) Warming air

**11. Which muscle is the main muscle used in breathing?**

- A) Intercostal muscles
- B) Diaphragm
- C) Abdominal muscles
- D) Pectoral muscles

**12. What is the process of removing harmful metabolic waste products from the body called?**

- A) Respiration
- B) Nutrition
- C) Excretion
- D) Transport

**13. Which type of respiration uses oxygen to break down glucose, producing more energy?**

- A) Anaerobic respiration
- B) Aerobic respiration
- C) Cellular respiration
- D) External respiration

**14. The movement of nutrients, gases, hormones, and waste products within the body is known as:**

- A) Excretion
- B) Respiration
- C) Nutrition
- D) Transport / Circulation

**15. What is the process of producing new individuals of the same species called?**

- A) Growth
- B) Differentiation
- C) Reproduction
- D) Metabolism

**16. The process by which unspecialized cells change into specialized cells is called:**

- A) Growth
- B) Differentiation
- C) Reproduction
- D) Metabolism

**17. What is the primary function of the kidneys?**

- A) Digesting food
- B) Filtering blood plasma
- C) Producing hormones for growth
- D) Regulating body temperature

**18. Which part of the urinary system stores urine?**

- A) Kidney
- B) Ureter
- C) Urinary bladder
- D) Urethra

**19. The functional units of the kidneys are called:**

- A) Nephrons
- B) Renal corpuscles
- C) Renal tubules
- D) Calcyces

**20. What are the three basic processes of urine formation?**

- A) Filtration, reabsorption, secretion
- B) Digestion, absorption, excretion
- C) Inhalation, exhalation, diffusion
- D) Sensation, integration, response

**21. What is the central nervous system composed of?**

- A) Brain and spinal nerves
- B) Brain and cranial nerves
- C) Brain and spinal cord
- D) Spinal cord and cranial nerves

**22. Which part of the nervous system controls voluntary activities and transmits impulses to skeletal muscles?**

- A) Autonomic Nervous System
- B) Somatic Nervous System
- C) Enteric Nervous System
- D) Peripheral Nervous System

**23. The 'fight or flight' response is primarily associated with which division of the autonomic nervous system?**

- A) Parasympathetic Nervous System
- B) Sympathetic Nervous System
- C) Enteric Nervous System
- D) Somatic Nervous System

**24. Which cranial nerve is primarily responsible for vision?**

- A) Olfactory nerve (CN I)
- B) Optic nerve (CN II)
- C) Oculomotor nerve (CN III)
- D) Trochlear nerve (CN IV)

**25. The cerebellum is mainly responsible for:**

- A) Conscious thought
- B) Regulating breathing
- C) Coordination of voluntary movements
- D) Relaying sensory information

**26. What is the main function of the medulla oblongata?**

- A) Processing visual information
- B) Controlling heart rate and breathing
- C) Relaying sensory information to the cerebrum
- D) Coordinating fine motor skills

**27. What are the three protective layers surrounding the brain and spinal cord called?**

- A) Meninges
- B) Ventricles
- C) Nerves
- D) Blood vessels

**28. Which of the following is a function of cerebrospinal fluid (CSF)?**

- A) Producing red blood cells
- B) Transporting oxygen to tissues
- C) Cushioning the brain and spinal cord
- D) Filtering waste from blood

**29. What is the primary role of the Circle of Willis in the brain's blood supply?**

- A) To increase blood pressure
- B) To provide collateral circulation if an artery is blocked
- C) To filter waste products
- D) To regulate breathing rate

**30. Which of the following is a characteristic of the blood-brain barrier (BBB)?**

- A) It allows all substances to pass freely
- B) It is absent in newborns
- C) It is a selective barrier that protects the brain
- D) It is primarily composed of bone

**31. What are the two main divisions of the peripheral nervous system?**

- A) Central and Autonomic
- B) Somatic and Autonomic
- C) Sympathetic and Parasympathetic
- D) Sensory and Motor

**32. Which nerve carries sensory information from the skin, muscles, and joints to the spinal cord?**

- A) Ventral root
- B) Dorsal root
- C) Meningeal branch
- D) Rami communicantes

**33. What is a dermatome?**

- A) A group of muscles supplied by a single spinal nerve
- B) An area of skin supplied by the sensory fibers of a single spinal nerve
- C) A network of nerves formed by ventral rami
- D) A protective membrane surrounding the spinal cord

**34. Which nerve plexus supplies the entire upper limb?**

- A) Cervical Plexus
- B) Brachial Plexus
- C) Lumbar Plexus
- D) Sacral Plexus

**35. The 'rest and digest' activities are primarily controlled by which part of the autonomic nervous system?**

- A) Sympathetic Nervous System
- B) Parasympathetic Nervous System
- C) Enteric Nervous System
- D) Somatic Nervous System

**36. Which neurotransmitter is released by most postganglionic sympathetic neurons?**

- A) Acetylcholine
- B) Dopamine
- C) Serotonin
- D) Noradrenaline

**37. Which cranial nerve controls pupil constriction and lens accommodation?**

- A) Optic nerve (CN II)
- B) Facial nerve (CN VII)
- C) Oculomotor nerve (CN III)
- D) Vagus nerve (CN X)

**38. What is the main function of the epineurium in a peripheral nerve?**

- A) Surrounds individual nerve fibers
- B) Surrounds a bundle of nerve fibers
- C) Provides mechanical strength and protection to the entire nerve
- D) Supplies oxygen and nutrients to nerve fibers

**39. The 'Haldane effect' describes the relationship between oxygen and the transport of which other gas?**

- A) Nitrogen
- B) Carbon dioxide
- C) Hydrogen
- D) Oxygen