

Advanced Human Anatomy Challenge

Anatomy · Answer Key · 20 Questions

1. Which cranial nerve is primarily responsible for innervating the muscles of mastication and also carries sensory information from the face and anterior two-thirds of the tongue?

- A) Facial Nerve (VII)
- B) Glossopharyngeal Nerve (IX)
- C) Trigeminal Nerve (V)**
- D) Vagus Nerve (X)

2. The innermost layer of the arterial wall, responsible for smooth blood flow and preventing platelet aggregation, is known as the:

- A) Tunica media
- B) Tunica externa (adventitia)
- C) Tunica intima**
- D) Endocardium

3. In the context of the urinary system, which part of the nephron is primarily responsible for facultative water reabsorption, regulated by antidiuretic hormone (ADH)?

- A) Proximal convoluted tubule
- B) Loop of Henle
- C) Distal convoluted tubule and collecting duct**
- D) Glomerulus

4. Which bone in the human skull articulates with the atlas (C1 vertebra) via the occipital condyles?

- A) Sphenoid bone
- B) Temporal bone
- C) Parietal bone
- D) Occipital bone**

5. The primary site of synthesis for bile, which aids in fat digestion and absorption, is the:

- A) Gallbladder
- B) Pancreas
- C) Spleen
- D) Liver**

6. Which of the following muscles is a primary mover for shoulder abduction, but is often mistakenly attributed solely to the deltoid muscle?

A) Supraspinatus

B) Infraspinatus

C) Teres minor

D) Subscapularis

7. The blood-brain barrier is primarily formed by the specialized endothelial cells of which vascular structure?

A) Arterioles

B) Venules

C) Capillaries

D) Sinusoids

8. Which endocrine gland produces parathyroid hormone (PTH), essential for regulating calcium and phosphate levels in the blood?

A) Thyroid gland

B) Adrenal glands

C) Parathyroid glands

D) Pituitary gland

9. The auditory ossicles (malleus, incus, stapes) are located within which part of the temporal bone?

A) Mastoid process

B) Squamous part

C) Petrous part

D) Tympanic part

10. Which structural component of the respiratory system is characterized by its rich vascularization and thin walls, facilitating gas exchange between air and blood?

A) Bronchioles

B) Alveoli

C) Trachea

D) Larynx

11. The primary neurotransmitter involved in the parasympathetic nervous system's action on target organs is:

A) Norepinephrine

B) Dopamine

C) Serotonin

D) Acetylcholine

12. Which type of joint allows for the greatest range of motion and is characterized by a synovial cavity between articulating bones?

- A) Hinge joint
- B) Pivot joint
- C) Ball-and-socket joint**
- D) Saddle joint

13. The intrinsic muscles of the hand, responsible for fine motor movements and grip, are primarily innervated by which nerve?

- A) Median nerve
- B) Radial nerve
- C) Ulnar nerve**
- D) Axillary nerve

14. Which organ is responsible for filtering blood and producing urine, consisting of millions of nephrons?

- A) Bladder
- B) Ureters
- C) Kidneys**
- D) Urethra

15. The structure that separates the outer and middle ear, vibrating in response to sound waves, is the:

- A) Eustachian tube
- B) Ossicles
- C) Tympanic membrane (eardrum)**
- D) Cochlea

16. Which hormone, produced by the pancreas, lowers blood glucose levels by promoting glucose uptake by cells and storage as glycogen?

- A) Glucagon
- B) Cortisol
- C) Insulin**
- D) Epinephrine

17. The broad, flat muscle that covers the back of the neck and the upper and middle back, responsible for rotating and extending the head and neck, is the:

- A) Deltoid muscle
- B) Trapezius muscle**
- C) Latissimus dorsi muscle
- D) Rhomboid major muscle

18. The small intestine is divided into three segments: the duodenum, the jejunum, and the:

- A) Cecum
- B) Colon
- C) Ileum**
- D) Appendix

19. Which layer of the skin is avascular and composed primarily of keratinocytes and melanocytes?

- A) Dermis
- B) Hypodermis
- C) Epidermis**
- D) Stratum corneum

20. The main artery supplying oxygenated blood to the brain is the:

- A) Vertebral artery
- B) Cerebral artery
- C) Internal carotid artery**
- D) Basilar artery