

Advanced Veterinary Science Principles

Veterinary Science · Answer Key · 25 Questions

1. Which cranial nerve is primarily responsible for the motor innervation of the muscles of mastication in mammals?

- A) Trigeminal nerve (CN V)**
- B) Facial nerve (CN VII)
- C) Glossopharyngeal nerve (CN IX)
- D) Hypoglossal nerve (CN XII)

2. In bovine anatomy, which of the four stomach compartments is considered the true glandular stomach equivalent to the simple stomach of monogastrics?

- A) Rumen
- B) Reticulum
- C) Omasum
- D) Abomasum**

3. What is the primary mechanism of action for ivermectin, a common anthelmintic used in veterinary medicine?

- A) Inhibition of bacterial cell wall synthesis
- B) Binding to glutamate-gated chloride channels**
- C) Disruption of microtubule polymerization
- D) Inhibition of acetylcholinesterase

4. Which heart valve is located between the right atrium and the right ventricle in a canine heart?

- A) Aortic valve
- B) Mitral valve
- C) Tricuspid valve**
- D) Pulmonary valve

5. During a urinalysis, which finding is most indicative of pre-renal azotemia in a dehydrated patient?

- A) High urine specific gravity**
- B) Low urine specific gravity
- C) Presence of glucose
- D) Presence of calcium oxalate crystals

6. Which phase of the estrous cycle in a bitch is characterized by a drop in progesterone and an increase in estrogen levels?

A) Proestrus

B) Estrus

C) Diestrus

D) Anestrus

7. In feline medicine, which virus is the causative agent of Feline Infectious Peritonitis (FIP)?

A) Feline Leukemia Virus

B) Feline Immunodeficiency Virus

C) Feline Coronavirus

D) Feline Calicivirus

8. What is the normal vertebral formula for the cervical region of the spinal column in most domestic mammals?

A) C5

B) C6

C) C7

D) C8

9. Which blood cell type is primarily responsible for the production of antibodies in the adaptive immune response?

A) Neutrophils

B) Basophils

C) B-lymphocytes

D) Monocytes

10. Which organ is responsible for the detoxification of ammonia into urea in mammals?

A) Kidneys

B) Liver

C) Spleen

D) Pancreas

11. The term 'tachycardia' refers specifically to which physiological state?

A) Abnormally slow heart rate

B) Abnormally fast heart rate

C) Labored breathing

D) Elevated body temperature

12. Which parasitic organism is the intermediate host for Dipylidium caninum?

- A) Mosquito
- B) Tick
- C) Flea**
- D) Snail

13. What is the primary function of the surfactant produced by Type II pneumocytes in the alveoli?

- A) Enhance gas exchange
- B) Prevent alveolar collapse**
- C) Filter airborne pathogens
- D) Regulate blood pH

14. In pharmacology, the 'therapeutic index' is calculated as the ratio between:

- A) LD50 and ED50**
- B) ED50 and LD50
- C) Absorption rate and Excretion rate
- D) Half-life and Bioavailability

15. Which nutrient is classified as a macromineral essential for bone structure and blood clotting in animals?

- A) Iron
- B) Calcium**
- C) Zinc
- D) Copper

16. Which part of the nephron is the primary site for the reabsorption of glucose in a healthy animal?

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

17. What is the primary causative agent of 'Strangles' in horses?

- A) Streptococcus equi**
- B) Clostridium tetani
- C) Salmonella typhimurium
- D) Bacillus anthracis

18. Which endocrine gland secretes calcitonin, a hormone that lowers blood calcium levels?

- A) Parathyroid gland
- B) Adrenal gland
- C) Thyroid gland**
- D) Pituitary gland

19. In the context of veterinary surgical sterilization, what is an 'ovariohysterectomy'?

- A) Removal of ovaries only
- B) Removal of the uterus only
- C) Removal of ovaries and uterus**
- D) Removal of testicles

20. Which immunoglobulin is the most abundant in the secondary immune response and can cross the placenta?

- A) IgA
- B) IgE
- C) IgM
- D) IgG**

21. What is the function of the 'tapetum lucidum' in the eyes of many nocturnal animals?

- A) Focusing light
- B) Increasing visual sensitivity in low light**
- C) Color perception
- D) Protecting the cornea

22. Which diagnostic imaging modality uses ionizing radiation to create cross-sectional images?

- A) Ultrasound
- B) MRI
- C) Computed Tomography (CT)**
- D) Endoscopy

23. What defines 'zoonosis' in the field of veterinary science?

- A) A disease that spreads between animals of different species
- B) A disease transmitted from animals to humans**
- C) A disease that only affects domestic pets
- D) A genetic mutation in animals

24. Which muscle is primarily responsible for the flexion of the elbow joint in the forelimb?

- A) Triceps brachii
- B) Biceps brachii**
- C) Deltoid
- D) Trapezius

25. In avian anatomy, which organ is responsible for the mechanical breakdown of food?

- A) Crop
- B) Proventriculus
- C) Gizzard**
- D) Cloaca