

Advanced Veterinary Science Knowledge Assessment

Veterinary Science · Answer Key · 20 Questions

1. Which of the following helminth ova is typically spherical and possesses a thick, transparent shell with a single polar plug?

- A) *Toxocara canis*
- B) *Trichuris vulpis***
- C) *Capillaria* spp.
- D) *Ascaris suum*

2. The characteristic 'butterfly' pattern seen on radiographs of the thoracic spine in dogs with suspected intervertebral disc disease (IVDD) is most indicative of disc degeneration in which intervertebral spaces?

- A) C5-C6 and C6-C7
- B) T12-T13 and L1-L2**
- C) L4-L5 and L5-L6
- D) C2-C3 and C3-C4

3. What is the primary mechanism of action for fluoroquinolone antibiotics in bacteria?

- A) Inhibition of cell wall synthesis
- B) Disruption of protein synthesis by binding to the 30S ribosomal subunit
- C) Inhibition of DNA gyrase and topoisomerase IV**
- D) Interference with folic acid synthesis

4. In cattle, what is the most common cause of acute, fatal poisoning following the ingestion of red maple (*Acer rubrum*) leaves?

- A) Nephrotoxicity due to tannins
- B) Hemolytic anemia due to compounds like gallic acid**
- C) Hepatotoxicity from silyphyllin
- D) Cardiotoxicity from cardiac glycosides

5. Which endocrine disorder in horses is characterized by abnormal proliferation of the pars intermedia of the pituitary gland, leading to increased cortisol production?

- A) Equine Cushing's Disease (PPID)**
- B) Equine Metabolic Syndrome (EMS)
- C) Hypothyroidism
- D) Adrenal Insufficiency

6. The murmur of mitral regurgitation in dogs is typically best auscultated over which anatomical location?

- A) Right base (pulmonic/aortic valves)
- B) Left base (pulmonic/aortic valves)
- C) Left apex (mitral valve)**
- D) Right apex (tricuspid valve)

7. What is the presumptive diagnosis for a sudden onset of collapse, severe weakness, and bradycardia in a young, active dog with a history of recent grooming?

- A) Addison's disease (hypoadrenocorticism)**
- B) Congestive heart failure
- C) Diabetic ketoacidosis
- D) Canine parvovirus infection

8. In avian medicine, what is the primary clinical sign of hypocalcemia in birds?

- A) Respiratory distress
- B) Neurological signs such as tremors and seizures**
- C) Gastrointestinal stasis
- D) Hemorrhagic enteritis

9. Which of the following zoonotic diseases is transmitted primarily through the bite of infected ticks and can cause fever, arthralgia, and a characteristic rash?

- A) Leptospirosis
- B) Brucellosis
- C) Rocky Mountain Spotted Fever**
- D) Toxoplasmosis

10. The condition known as 'white muscle disease' in livestock is caused by a deficiency of which essential nutrient?

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

11. Which type of fracture is characterized by a break in the bone that extends through the entire thickness of the bone, but without displacement of the fragments?

- A) Greenstick fracture
- B) Comminuted fracture
- C) Complete fracture**
- D) Fissure fracture

12. What is the most common cause of feline urolithiasis (bladder stones) in adult cats?

A) Calcium oxalate

B) Struvite

C) Urate

D) Cystine

13. The surgical procedure to create an opening into the stomach is called:

A) Esophagostomy

B) Gastrostomy

C) Duodenostomy

D) Jejunostomy

14. Which viral disease in dogs is characterized by neurological signs, including chewing gum fits, and is often fatal?

A) Canine Distemper Virus

B) Canine Adenovirus

C) Canine Parvovirus

D) Canine Coronavirus

15. In pigs, the term 'splenic torsion' refers to:

A) A bacterial infection of the spleen

B) A twisting of the spleen on its mesentery

C) A rupture of the spleen due to trauma

D) An inflammatory condition of the spleen

16. What is the primary neurotransmitter involved in the 'fight or flight' response in the sympathetic nervous system?

A) Acetylcholine

B) Dopamine

C) Norepinephrine

D) Serotonin

17. Which diagnostic imaging technique uses magnetic fields and radio waves to create detailed images of soft tissues?

A) Computed Tomography (CT)

B) Radiography (X-ray)

C) Magnetic Resonance Imaging (MRI)

D) Ultrasonography

18. The disease 'bovine spongiform encephalopathy' (BSE) is a prion disease that affects which species?

- A) Sheep
- B) Goats
- C) Cattle**
- D) Deer

19. Which of the following is a characteristic hematological finding in a horse with Equine Infectious Anemia (EIA)?

- A) Thrombocytopenia**
- B) Eosinophilia
- C) Leukocytosis
- D) Polycythemia

20. What is the term for the surgical removal of the adrenal glands?

- A) Nephrectomy
- B) Splenectomy
- C) Adrenalectomy**
- D) Hysterectomy