Board Exam Desk

Veterinary Medicine Reviewer

Veterinary Medicine Licensure Examination | PRC | 120 original questions

2026 Edition | Updated November 2026

Original board-style practice questions with an answer key.

Practice questions

Veterinary Anatomy and Physiology

1. A clinician charts the permanent dentition of a healthy adult dog with no missing teeth. How many teeth should be recorded?

A. 42
B. 44
C. 38
D. 40

2. In a ruminant, which stomach compartment is the true glandular stomach that secretes hydrochloric acid and pepsinogen?

A. Reticulum
B. Abomasum
C. Rumen
D. Omasum

3. During a necropsy, a student cannot find a gallbladder and the bile duct opens directly into the duodenum. Which species is most likely being examined?

A. Cow
B. Cat
C. Horse
D. Dog

4. A practitioner counting rib-bearing vertebrae on an equine skeleton should typically find how many thoracic vertebrae?

A. 18
B. 15
C. 13
D. 14

5. In the chicken, which organ performs the mechanical grinding of feed, aided by ingested grit?

A. Ceca
B. Ventriculus (gizzard)
C. Proventriculus
D. Crop (ingluvies)

6. A dairy cow is put in the milking parlor and milk ejection begins within a minute of udder stimulation. Which hormone released from the posterior pituitary mediates this reflex?

A. Prolactin
B. Somatotropin
C. Progesterone
D. Oxytocin

7. A dog hit by a car cannot bear weight on a forelimb, knuckles over on the dorsum of the paw and cannot extend the elbow. Injury to which nerve best explains these signs?

A. Musculocutaneous nerve
B. Radial nerve
C. Median nerve
D. Ulnar nerve

8. A dog has central diabetes insipidus with very dilute urine. The deficient hormone is synthesized in the hypothalamus and released from which structure?

A. Pineal gland
B. Neurohypophysis (posterior pituitary)
C. Adrenal medulla
D. Adenohypophysis (anterior pituitary)

9. Which volatile fatty acid produced in the rumen serves as the major substrate for hepatic gluconeogenesis in cattle?

A. Butyrate
B. Isovalerate
C. Propionate
D. Acetate

10. A horse shows a drooping ear, a drooping upper eyelid and a lip pulled toward the unaffected side. Which cranial nerve is most likely damaged?

A. Trigeminal nerve (CN V)
B. Facial nerve (CN VII)
C. Vagus nerve (CN X)
D. Hypoglossal nerve (CN XII)

11. On a stained blood smear from a laying hen, how do the mature erythrocytes differ from those of a dog?

A. They contain many granules
B. They are oval and nucleated
C. They are round and anucleate
D. They are biconcave and larger

12. A resting dog has a heart rate of 100 beats per minute and a stroke volume of 25 mL. What is its cardiac output?

A. 2.5 L/min
B. 0.25 L/min
C. 4.0 L/min
D. 25 L/min

Veterinary Pathology

13. A dog with a thromboembolism develops an infarct in the cerebrum. Which pattern of necrosis is expected in this tissue?

A. Coagulative necrosis
B. Caseous necrosis
C. Liquefactive necrosis
D. Fat necrosis

14. An adult goat has enlarged superficial lymph nodes; on cut section they contain greenish, dry pus arranged in concentric layers. Which agent is most likely responsible?

A. Corynebacterium pseudotuberculosis
B. Mycobacterium bovis
C. Actinobacillus lignieresii
D. Trueperella pyogenes

15. At necropsy, a dog with long-standing right-sided heart failure has a liver whose cut surface shows a mottled red and tan pattern. What is the best description of this lesion?

A. Acute hepatic necrosis
B. Chronic passive congestion (nutmeg liver)
C. Hepatic lipidosis
D. Hepatic amyloidosis

16. A calf with selenium and vitamin E deficiency has chalky white streaks in necrotic skeletal muscle, while its serum calcium is normal. This mineral deposition is best classified as what?

A. Calcinosis circumscripta
B. Ossification
C. Dystrophic calcification
D. Metastatic calcification

17. A renal biopsy from a dog with protein-losing nephropathy shows amorphous glomerular deposits that show apple-green birefringence under polarized light. Which stain was used?

A. Congo red
B. Periodic acid-Schiff
C. Prussian blue
D. Ziehl-Neelsen

18. Within the first few hours after a bacterial contamination of a wound, which leukocyte predominates in the exudate?

A. Plasma cell
B. Lymphocyte
C. Eosinophil
D. Neutrophil

19. A cat with hypertrophic cardiomyopathy has a thickened left ventricular wall caused by enlargement of individual cardiomyocytes. This change is termed what?

A. Hypertrophy
B. Dysplasia
C. Metaplasia
D. Hyperplasia

20. A cow with babesiosis is jaundiced. Which laboratory change is expected to predominate in its serum?

A. Increased unconjugated bilirubin
B. Increased conjugated bilirubin only
C. Decreased total bilirubin
D. Absent urobilinogen in urine

21. A pig fed a diet deficient in vitamin A shows replacement of the columnar epithelium of its airways with stratified squamous epithelium. What is this change called?

A. Squamous metaplasia
B. Squamous cell carcinoma
C. Atrophy
D. Anaplasia

22. A 7-year-old large-breed dog has a painful swelling of the distal radius with lytic and productive bone changes on radiographs. Which neoplasm is most likely?

A. Lipoma
B. Chondroma
C. Osteosarcoma
D. Osteoma

23. At necropsy of a dairy cow with weight loss and brisket edema, a wire is found tracking from the reticulum into a thickened pericardial sac containing fibrin and pus. What is the diagnosis?

A. Dilated cardiomyopathy
B. Valvular endocarditis
C. Cardiac lymphoma
D. Traumatic reticulopericarditis

24. Macrophages in the lungs of a dog with chronic left-sided heart failure stain intensely blue with Prussian blue. What pigment do they contain?

A. Hemosiderin
B. Lipofuscin
C. Melanin
D. Bilirubin

Veterinary Microbiology and Immunology

25. A carabao is found dead with bloating and dark unclotted blood oozing from the nostrils and anus. Why should the carcass not be opened for necropsy?

A. The toxin is rapidly destroyed by air
B. Lesions are visible only in the brain
C. The organism is killed by putrefaction
D. Exposure to air lets the bacilli sporulate

26. Several heifers in a herd abort during the last trimester, and the placentas show necrotic cotyledons. The agent localizes in the gravid uterus because of erythritol. Which organism is most likely?

A. Leptospira hardjo
B. Campylobacter fetus
C. Brucella abortus
D. Listeria monocytogenes

27. After typhoon flooding, a piggery has abortions and a farm worker develops fever and kidney problems. The agent is a spirochete shed in the urine of carrier animals. Which is it?

A. Borrelia burgdorferi
B. Leptospira interrogans
C. Treponema pallidum
D. Brachyspira hyodysenteriae

28. A horse that stepped on a rusty nail two weeks ago now has a sawhorse stance, prolapse of the third eyelid and hyperesthesia. Which organism caused this?

A. Clostridium tetani
B. Clostridium botulinum
C. Clostridium perfringens
D. Clostridium chauvoei

29. The virus that causes rabies in dogs and humans belongs to which family?

A. Picornaviridae
B. Rhabdoviridae
C. Herpesviridae
D. Paramyxoviridae

30. Backyard chickens show torticollis, greenish diarrhea, a sharp fall in egg production and high mortality; necropsy shows hemorrhages at the tips of the proventricular glands. Which disease is most likely?

A. Marek's disease
B. Newcastle disease
C. Fowl pox
D. Infectious coryza

31. An unvaccinated 10-week-old puppy has vomiting, bloody diarrhea and severe leukopenia. Canine parvovirus damages the intestine mainly by destroying which cells?

A. Rapidly dividing crypt epithelial cells
B. Mature villus tip enterocytes only
C. Goblet cells of the colon
D. Smooth muscle of the muscularis

32. The virus causing African swine fever, which has caused major pig losses in the Philippines, belongs to which family?

A. Circoviridae
B. Flaviviridae
C. Asfarviridae
D. Arteriviridae

33. Why does a newborn calf depend entirely on colostrum for antibodies at birth?

A. Its epitheliochorial placenta blocks antibody transfer
B. Its fetal liver destroys maternal IgG
C. Its gut cannot absorb any protein at birth
D. Its dam produces no IgG during pregnancy

34. Within minutes of receiving a vaccine, a dog develops facial swelling, vomiting and collapse. Which antibody class mainly mediates this reaction?

A. IgM
B. IgE
C. IgG
D. IgA

35. Gram-positive cocci are isolated from bovine mastitis milk. Which simple test separates Staphylococcus from Streptococcus?

A. Urease test
B. Catalase test
C. Oxidase test
D. Indole test

36. Why is Mycoplasma hyopneumoniae, the cause of enzootic pneumonia in pigs, naturally resistant to penicillin?

A. It has an outer lipopolysaccharide membrane
B. It produces large amounts of beta-lactamase
C. It lives only inside red cells
D. It lacks a cell wall

Veterinary Parasitology

37. Cattle grazing on wet rice paddies develop chronic fascioliasis. Which organism serves as the intermediate host of Fasciola gigantica in the Philippines?

A. Oribatid mite
B. Lymnaeid snail
C. Planorbid snail
D. Dung beetle

38. A litter of puppies dewormed only after weaning still has heavy Toxocara canis burdens by 3 weeks of age. What is the main route by which they were infected?

A. Transplacental migration of larvae
B. Ingestion of paratenic rodents
C. Bites of infected fleas
D. Skin penetration by larvae

39. Dirofilaria immitis adults are found mainly in which location in an infected dog?

A. Subcutaneous tissue
B. Small intestine
C. Left ventricle and aorta
D. Pulmonary arteries and right heart

40. A cow has fever, anemia and red-brown urine, and its blood smear shows paired pear-shaped organisms inside erythrocytes. The tick vector is Rhipicephalus microplus. What is the most likely parasite?

A. Anaplasma marginale
B. Trypanosoma evansi
C. Theileria parva
D. Babesia bigemina

41. Horses and carabaos in a lowland farm show intermittent fever, anemia, edema and wasting. Flagellates are seen free in the blood, and biting flies are abundant. What is the disease?

A. Surra
B. Theileriosis
C. Equine infectious anemia
D. Babesiosis

42. Goats on a wet pasture have pale conjunctivae and submandibular edema, and the abomasum contains worms with red and white twisted bands. Which nematode is responsible?

A. Haemonchus contortus
B. Trichuris ovis
C. Ostertagia ostertagi
D. Oesophagostomum columbianum

43. Broiler chicks aged 4 weeks pass bloody droppings, and necropsy shows ceca distended with clotted blood. Which parasite is most likely involved?

A. Eimeria tenella
B. Eimeria acervulina
C. Ascaridia galli
D. Histomonas meleagridis

44. A dog has intense pruritus with crusting on the ear margins and elbows, and scratching the ear tip triggers a hind-leg kick. The owner also has itchy papules. Which mite is most likely?

A. Otodectes cynotis
B. Cheyletiella yasguri
C. Sarcoptes scabiei
D. Demodex canis

45. A person develops seizures from cysticerci in the brain. Which event most likely led to this condition?

A. Ingesting Taenia solium eggs
B. Eating undercooked beef with cysts
C. Being bitten by an infected mosquito
D. Walking barefoot on moist soil

46. Hydatid cysts are found in the liver of slaughtered sheep. Which animal is the definitive host of the responsible tapeworm?

A. Sheep
B. Pig
C. Snail
D. Dog

47. A pregnant ewe flock suffers abortions after feed was stored where farm cats defecate. Which animal is the definitive host of the protozoan most likely responsible?

A. Rat
B. Sheep
C. Cat
D. Dog

48. In a modified McMaster test, 2 g of feces are mixed with 28 mL of flotation solution, and two 0.15 mL chambers together contain 14 eggs. What is the eggs per gram (EPG) value?

A. 350
B. 140
C. 700
D. 1,400

Veterinary Pharmacology and Toxicology

49. A 15 kg dog is to receive an initial meloxicam dose of 0.2 mg/kg from a 5 mg/mL injectable solution. What volume should be given?

A. 1.5 mL
B. 0.6 mL
C. 3.0 mL
D. 0.3 mL

50. A Collie develops ataxia, blindness and coma after receiving a high dose of ivermectin. Which genetic defect explains its sensitivity?

A. Defective cytochrome P450 2D6
B. Mutation of the MDR1 (ABCB1) gene
C. Lack of cholinesterase enzymes
D. Deficiency of glucuronyl transferase

51. A cat given acetaminophen by its owner develops brown mucous membranes, facial edema and Heinz bodies. What is the main reason cats are so susceptible?

A. Excess hepatic glutathione stores
B. High plasma protein binding
C. Limited glucuronide conjugation capacity
D. Rapid renal excretion of the drug

52. A goat sprayed with an organophosphate shows salivation, miosis, diarrhea and bradycardia. Which drug should be given to block these muscarinic signs?

A. Acepromazine
B. Epinephrine
C. Atropine sulfate
D. Neostigmine

53. A dog sedated with xylazine needs rapid recovery. Which drug class reverses this sedative?

A. Benzodiazepine antagonists
B. Alpha-2 adrenergic antagonists
C. Beta-adrenergic agonists
D. Opioid antagonists

54. A dairy farmer treats a mastitic cow with an intramammary antibiotic. What is the term for the minimum time after the last dose before the milk may be sold for human consumption?

A. Withdrawal period
B. Loading period
C. Dosing interval
D. Elimination half-life

55. A foal treated for several days with gentamicin develops rising creatinine and casts in its urine. What adverse effect does this represent?

A. Aminoglycoside nephrotoxicity
B. Tetracycline photosensitivity
C. Penicillin hypersensitivity
D. Fluoroquinolone arthropathy

56. Which antimicrobial is prohibited in food-producing animals because residues can cause non-dose-related aplastic anemia in humans?

A. Sulfadimidine
B. Chloramphenicol
C. Amoxicillin
D. Oxytetracycline

57. A dog that ate a brodifacoum rat bait three days ago has epistaxis and prolonged clotting times. What is the specific antidote?

A. Vitamin K3 (menadione)
B. Calcium gluconate
C. Vitamin K1 (phytonadione)
D. Protamine sulfate

58. Cattle that grazed heavily fertilized forage become dyspneic, and their blood is chocolate brown. Which treatment is specific for this poisoning?

A. Methylene blue
B. Sodium thiosulfate
C. Calcium borogluconate
D. Atropine sulfate

59. Goats that ate wilted cassava leaves die quickly with dyspnea and bright cherry-red venous blood. Which antidote combination is most appropriate?

A. Sodium nitrite and sodium thiosulfate
B. Atropine and pralidoxime
C. Methylene blue and ascorbic acid
D. Vitamin K1 and plasma

60. A drug with an elimination half-life of 4 hours has a plasma concentration of 80 micrograms/mL. Assuming first-order kinetics and no further dosing, what will the concentration be after 12 hours?

A. 5 micrograms/mL
B. 20 micrograms/mL
C. 40 micrograms/mL
D. 10 micrograms/mL

Veterinary Clinical Medicine

61. A 25 kg dog is estimated to be 8% dehydrated. What volume of fluid is needed to replace the deficit alone?

A. 20 L
B. 3.2 L
C. 0.2 L
D. 2.0 L

62. A 10 kg dog needs maintenance fluids of 60 mL/kg/day through a microdrip set delivering 60 drops/mL. What drip rate is required?

A. 60 drops/min
B. 10 drops/min
C. 25 drops/min
D. 42 drops/min

63. A high-producing dairy cow is found down a day after calving with cold extremities, an S-shaped neck posture and weak heart sounds. What is the best initial treatment?

A. Oral sodium bicarbonate
B. Slow intravenous calcium borogluconate
C. Intravenous potassium chloride bolus
D. Intramuscular vitamin E and selenium

64. Four weeks after calving, a dairy cow has reduced milk yield, firm feces, decreased appetite and a sweet odor on its breath. Which condition is most likely?

A. Grass tetany
B. Milk fever
C. Hardware disease
D. Ketosis

65. A dairy cow with reduced appetite after calving has a high-pitched ping on simultaneous auscultation and percussion over the left last ribs. What is the most likely diagnosis?

A. Frothy bloat
B. Cecal dilatation
C. Left displaced abomasum
D. Right abomasal volvulus

66. Cattle grazing a lush legume pasture develop severe left-sided abdominal distension, and a stomach tube releases little gas. What is the most appropriate treatment?

A. Oral magnesium oxide
B. Intravenous calcium solution
C. Parenteral thiamine
D. Antifoaming agent given by tube

67. A male cat strains to urinate with no urine for two days and has a firm, enlarged bladder. Its heart rate is unusually slow. Which electrolyte disturbance is most likely?

A. Hypercalcemia
B. Hypokalemia
C. Hypernatremia
D. Hyperkalemia

68. An unvaccinated young dog that had eye and nasal discharge weeks ago now has hyperkeratotic footpads and rhythmic jerking of the head muscles. Which disease is most likely?

A. Canine parvovirus enteritis
B. Canine distemper
C. Leptospirosis
D. Infectious canine hepatitis

69. A middle-aged dog has a pendulous abdomen, symmetric alopecia, polyuria and polydipsia. Which test is commonly used to confirm the suspected endocrine disease?

A. Serum TLI assay
B. Water deprivation test
C. Glucose tolerance test
D. Low-dose dexamethasone suppression test

70. A tick-infested dog has fever, epistaxis and marked thrombocytopenia; a buffy coat smear shows morulae inside monocytes. Which drug is the treatment of choice?

A. Praziquantel
B. Metronidazole
C. Doxycycline
D. Imidocarb

71. A large deep-chested dog has a rapidly distending abdomen and repeated unproductive retching an hour after a large meal. What is the most likely diagnosis?

A. Splenic hematoma
B. Acute pancreatitis
C. Gastric dilatation-volvulus
D. Intestinal intussusception

72. A 20 kg dog has a PCV of 12% and the target PCV is 25%. Using blood volume of 90 mL/kg and donor blood PCV of 45%, how much whole blood should be transfused?

A. 260 mL
B. 433 mL
C. 1,170 mL
D. 520 mL

Veterinary Surgery

73. Two weeks after surgery, a wound has bright red, granular tissue filling the defect along with fibroblast proliferation. Which phase of healing is this?

A. Inflammatory phase
B. Maturation (remodeling) phase
C. Proliferative (repair) phase
D. Hemostatic phase

74. A surgeon wants an absorbable monofilament suture for closing the linea alba. Which material meets this requirement?

A. Polypropylene
B. Stainless steel
C. Polydioxanone
D. Nylon

75. During ovariohysterectomy in a bitch, which structure is usually stretched or broken to bring the ovary out through the incision?

A. Broad ligament near the cervix
B. Proper ligament of the ovary
C. Round ligament of the uterus
D. Suspensory ligament of the ovary

76. For a standing left flank laparotomy in a cow, a proximal paravertebral block desensitizes which spinal nerves?

A. T10, T11 and T12
B. S1, S2 and S3
C. T13, L1 and L2
D. L3, L4 and L5

77. A dog's fractured tibia has a skin wound through which bone fragments are exposed. How is this fracture classified?

A. Avulsion fracture
B. Open fracture
C. Greenstick fracture
D. Closed comminuted fracture

78. A standard gravity steam autoclave cycle for wrapped surgical packs uses about 15 psi of pressure at what temperature?

A. 160 degrees Celsius
B. 121 degrees Celsius
C. 100 degrees Celsius
D. 80 degrees Celsius

79. A Pug has loud stertor, exercise intolerance and narrow slit-like nostrils. Which surgical problem commonly accompanies this condition?

A. Laryngeal paralysis
B. Esophageal achalasia
C. Elongated soft palate
D. Tracheal collapse

80. A dog with sudden hind-limb lameness shows forward sliding of the tibia relative to the femur when the stifle is manipulated. Which structure is most likely ruptured?

A. Patellar ligament
B. Cranial cruciate ligament
C. Caudal cruciate ligament
D. Medial collateral ligament

81. During pelvic examination of a young dog under sedation, a palpable clunk occurs as the femoral head re-enters the acetabulum when the abducted limb is pushed. What does this sign suggest?

A. Patellar luxation
B. Hip joint laxity from dysplasia
C. Sacroiliac luxation
D. Femoral neck fracture

82. A dog scheduled for surgery has severe systemic disease that is a constant threat to life. Which ASA physical status classification applies?

A. ASA III
B. ASA II
C. ASA IV
D. ASA V

83. A Shar-Pei has tearing and corneal ulcers because the lower eyelid margin rolls inward. Which procedure is commonly used to correct this?

A. Hotz-Celsus procedure
B. Enucleation
C. Parotid duct transposition
D. Third eyelid flap

84. A 20 kg dog is to be induced with propofol at 4 mg/kg. The solution contains 10 mg/mL. What total volume should be drawn up?

A. 20 mL
B. 0.8 mL
C. 8 mL
D. 4 mL

Theriogenology

85. A sow was bred on March 1, 2025. Using a gestation length of 114 days, when is farrowing expected?

A. May 24, 2025
B. July 3, 2025
C. June 23, 2025
D. June 13, 2025

86. A cow that was seen in standing heat but not bred fails to conceive. Assuming a normal estrous cycle, about how many days later should she next be watched for heat?

A. 21 days
B. 14 days
C. 7 days
D. 35 days

87. Following the am-pm rule, a cow first observed in standing heat early in the morning should be inseminated when?

A. Two days after the heat ends
B. Before heat signs first appear
C. Immediately at first sighting
D. Later that same afternoon or evening

88. Which domestic species is an induced (reflex) ovulator that requires coital stimulation to release LH and ovulate?

A. Cat
B. Sow
C. Mare
D. Cow

89. In temperate regions, sheep are seasonally polyestrous and begin cycling as day length decreases. How are they classified?

A. Non-seasonal breeders
B. Long-day breeders
C. Monoestrous breeders
D. Short-day breeders

90. An intact bitch has purulent vulvar discharge, polydipsia and lethargy about six weeks after estrus. Which hormone's dominance in the uterus predisposes to this condition?

A. Progesterone
B. Estrogen
C. Oxytocin
D. Relaxin

91. A heifer born co-twin to a bull calf has a small vulva and is infertile. What explains this condition?

A. Persistent corpus luteum after birth
B. Uterine infection during gestation
C. Lack of colostrum intake at birth
D. Shared placental circulation with the male twin

92. A farm uses prostaglandin F2-alpha to synchronize estrus in cattle. The treatment works only when what structure is present on the ovary?

A. A corpus albicans
B. A responsive corpus luteum
C. A preovulatory follicle
D. A follicular cyst

93. On semen evaluation, a bull has many sperm with abnormal head shapes. Where do primary abnormalities such as these arise?

A. Collection vessel after ejaculation
B. Seminiferous tubules during spermatogenesis
C. Accessory glands during ejaculation
D. Tail of the epididymis during storage

94. A veterinarian palpates a cow per rectum and feels the fetal membranes slip between the fingers when the uterine horn wall is gently pinched. What does this indicate?

A. The cow has pyometra
B. The cow has a follicular cyst
C. The cow is in estrus
D. The cow is pregnant

95. In the pregnant mare, which hormone is secreted by the endometrial cups that form around day 35 to 40?

A. Anti-Mullerian hormone
B. Placental lactogen
C. Equine chorionic gonadotropin
D. Human chorionic gonadotropin

96. A dairy herd recorded 80 inseminations that produced 52 pregnancies. What is the number of services per conception?

A. 0.65
B. 1.54
C. 2.08
D. 1.35

Veterinary Public Health and Epidemiology

97. A survey of 1,200 pigs on several farms finds 84 seropositive for a disease at one point in time. What is the prevalence?

A. 8.4%
B. 14.3%
C. 0.7%
D. 7.0%

98. A new test is applied to 90 animals confirmed to have a disease, and 81 test positive. What is the sensitivity of the test?

A. 10%
B. 90%
C. 81%
D. 95%

99. The same test is applied to 200 animals confirmed free of the disease, and 190 test negative. What is the specificity?

A. 95%
B. 19%
C. 5%
D. 90%

100. An epidemiologist counts the new cases of a disease arising in a herd during one year. Which measure is being estimated?

A. Case fatality rate
B. Attack odds
C. Prevalence
D. Incidence

101. Which Philippine law is known as the Anti-Rabies Act of 2007?

A. Republic Act No. 10611
B. Republic Act No. 9268
C. Republic Act No. 9482
D. Republic Act No. 8485

102. At a slaughterhouse, inspection of live animals is done before they are killed to detect illness and segregate suspects. What is this called?

A. Carcass grading
B. Retail meat inspection
C. Post-mortem inspection
D. Ante-mortem inspection

103. Several people develop fever, muscle pain and periorbital edema after eating poorly cooked pork containing encysted larvae in muscle. Which parasite is responsible?

A. Trichinella spiralis
B. Anisakis simplex
C. Taenia saginata
D. Ascaris suum

104. A dairy plant uses high-temperature short-time pasteurization of milk. Which time and temperature combination is standard?

A. 72 degrees Celsius for 15 seconds
B. 100 degrees Celsius for 30 minutes
C. 63 degrees Celsius for 15 seconds
D. 135 degrees Celsius for 30 minutes

105. Workers who assisted goat kiddings develop a flu-like illness. The agent is an obligate intracellular bacterium inhaled from dust contaminated by birth fluids. Which disease is this?

A. Q fever
B. Brucellosis
C. Leptospirosis
D. Listeriosis

106. A zoonosis that requires both a vertebrate and an invertebrate host to complete its cycle, such as one carried by mosquitoes, is classified as what?

A. Direct zoonosis
B. Cyclozoonosis
C. Saprozoonosis
D. Metazoonosis

107. In a case-control study, 40 of 60 sick dogs and 20 of 80 healthy dogs had eaten a certain feed. What is the odds ratio for exposure?

A. 2.7
B. 3.0
C. 4.0
D. 6.0

108. In a cohort study, 30 of 150 vaccinated-late calves and 10 of 200 vaccinated-on-time calves develop pneumonia. What is the relative risk for late vaccination?

A. 0.25
B. 6.0
C. 4.0
D. 3.0

Animal Nutrition and Production

109. Using the Pearson square, a 16% crude protein mix is made from corn (9% CP) and soybean meal (44% CP). What percentage of the mix should be soybean meal?

A. 20%
B. 16%
C. 80%
D. 35%

110. A broiler flock consumed 3,600 kg of feed and gained a total of 2,000 kg of live weight. What is its feed conversion ratio?

A. 1.6
B. 0.56
C. 2.0
D. 1.8

111. A cow needs 12 kg of dry matter daily from a fresh forage that is 25% dry matter. How much fresh forage, as fed, must it be offered?

A. 3 kg
B. 48 kg
C. 37 kg
D. 15 kg

112. Young lambs born to ewes grazing selenium-poor soils show stiffness, reluctance to move and pale streaks in skeletal and cardiac muscle. Which condition is this?

A. Pregnancy toxemia
B. Polioencephalomalacia
C. Enzootic ataxia
D. Nutritional muscular dystrophy

113. Lactating cows grazing lush, rapidly growing grass suddenly develop muscle tremors, hyperexcitability and convulsions. Which mineral deficiency is most likely?

A. Iodine
B. Cobalt
C. Copper
D. Magnesium

114. Growing pigs fed a high-calcium diet develop symmetrical crusty, thickened skin lesions without pruritus. Which nutrient deficiency is most likely?

A. Iron
B. Biotin
C. Zinc
D. Vitamin D

115. A feedlot steer on a high-concentrate ration shows blindness, star-gazing and head pressing that respond to early treatment. Deficiency of which vitamin is implicated?

A. Vitamin A
B. Thiamine
C. Vitamin C
D. Riboflavin

116. Which domestic species is especially prone to chronic accumulation and sudden hemolytic crisis when fed rations high in copper?

A. Pig
B. Chicken
C. Horse
D. Sheep

117. A cooperative wants to improve milk production of local buffaloes by crossbreeding with a riverine dairy breed. Which breed is most appropriate?

A. Anglo-Nubian
B. Murrah
C. Brahman
D. Landrace

118. A swine breeder wants a white breed with lop ears, a long body and good mothering ability for its sow line. Which breed fits best?

A. Duroc
B. Hampshire
C. Landrace
D. Pietrain

119. A producer wants a lightweight, highly efficient commercial layer type that lays white-shelled eggs. Which breed is the usual basis?

A. Rhode Island Red
B. Cornish
C. White Leghorn
D. Plymouth Rock

120. Why can urea be used as a partial protein substitute in rations for cattle but not in rations for young pigs?

A. Urea is broken down only by pig liver
B. Cattle excrete urea faster than pigs
C. Cattle absorb urea directly as amino acids
D. Rumen microbes use its ammonia to make protein

Answer key

Veterinary Medicine

1. A. 42

The adult canine dental formula is 2(I 3/3, C 1/1, P 4/4, M 2/3), which totals 42 permanent teeth.

2. B. Abomasum

The rumen, reticulum and omasum are non-glandular forestomachs; only the abomasum has a glandular mucosa comparable to the simple stomach.

3. C. Horse

The horse normally has no gallbladder, so bile flows continuously from the liver into the duodenum.

4. A. 18

The horse typically has 18 thoracic vertebrae with 18 pairs of ribs, compared with 13 in the dog and in cattle.

5. B. Ventriculus (gizzard)

The muscular ventriculus grinds feed; the proventriculus is the glandular stomach that secretes acid and pepsin before it.

6. D. Oxytocin

Teat stimulation triggers neural release of oxytocin, which contracts myoepithelial cells around the alveoli to eject milk.

7. B. Radial nerve

The radial nerve supplies the extensors of the elbow, carpus and digits, so its injury causes failure to extend the limb and knuckling.

8. B. Neurohypophysis (posterior pituitary)

Antidiuretic hormone is made in hypothalamic nuclei and stored and released from the posterior pituitary; its lack prevents water reabsorption in the collecting ducts.

9. C. Propionate

Propionate is the main glucogenic VFA; acetate is used mainly for fat synthesis and butyrate is converted largely to ketone bodies by the rumen wall.

10. B. Facial nerve (CN VII)

The facial nerve supplies the muscles of facial expression, including those of the ear, eyelids and lips.

11. B. They are oval and nucleated

Avian erythrocytes are oval cells that retain a central nucleus, unlike the anucleate biconcave discs of mammals.

12. A. 2.5 L/min

Cardiac output = heart rate x stroke volume = 100 x 25 mL = 2,500 mL/min, or 2.5 L/min.

13. C. Liquefactive necrosis

Hypoxic death of nervous tissue typically produces liquefactive necrosis, whereas infarcts in most solid organs are coagulative.

14. A. Corynebacterium pseudotuberculosis

Caseous lymphadenitis of small ruminants, caused by C. pseudotuberculosis, classically produces laminated onion-ring abscesses in lymph nodes.

15. B. Chronic passive congestion (nutmeg liver)

Raised venous pressure from right heart failure congests centrilobular areas, giving the red-and-tan nutmeg pattern of chronic passive congestion.

16. C. Dystrophic calcification

Calcium deposited in damaged or necrotic tissue with normal blood calcium is dystrophic; metastatic calcification requires hypercalcemia or hyperphosphatemia.

17. A. Congo red

Amyloid stained with Congo red shows apple-green birefringence under polarized light.

18. D. Neutrophil

Neutrophils are the first leukocytes to emigrate in large numbers in acute inflammation, usually within hours.

19. A. Hypertrophy

Cardiac muscle cells are largely non-dividing, so an increase in organ size results from enlargement of existing cells, which is hypertrophy.

20. A. Increased unconjugated bilirubin

Intravascular hemolysis overloads hepatic conjugation, so prehepatic icterus is dominated by unconjugated bilirubin.

21. A. Squamous metaplasia

Vitamin A is required for maintaining specialized epithelia; in deficiency, columnar epithelium is replaced by squamous epithelium, a metaplastic change.

22. C. Osteosarcoma

Osteosarcoma is the most common primary bone tumor of dogs and favors the metaphyses of long bones in large and giant breeds.

23. D. Traumatic reticulopericarditis

A penetrating foreign body from the reticulum can reach the pericardium, causing fibrinosuppurative pericarditis and right-sided heart failure signs.

24. A. Hemosiderin

Prussian blue detects ferric iron in hemosiderin, which accumulates in alveolar macrophages after red cells leak into congested alveoli.

25. D. Exposure to air lets the bacilli sporulate

Suspected anthrax carcasses are left unopened because Bacillus anthracis forms resistant spores on contact with oxygen, contaminating the environment.

26. C. Brucella abortus

Brucella abortus preferentially uses erythritol, abundant in the bovine placenta, causing placentitis and late-term abortion.

27. B. Leptospira interrogans

Pathogenic leptospires are shed in urine and survive in floodwater, causing abortion in pigs and leptospirosis in people exposed to contaminated water.

28. A. Clostridium tetani

Tetanospasmin from C. tetani in deep anaerobic wounds blocks inhibitory neurotransmitters, producing spastic paralysis.

29. B. Rhabdoviridae

Rabies virus is a bullet-shaped, single-stranded RNA virus of the genus Lyssavirus, family Rhabdoviridae.

30. B. Newcastle disease

Virulent Newcastle disease (avian paramyxovirus 1) combines nervous, respiratory and digestive signs with proventricular hemorrhages.

31. A. Rapidly dividing crypt epithelial cells

Parvoviruses replicate in cells in the S phase, so they destroy proliferating crypt cells, causing villus collapse, and also bone marrow precursors.

32. C. Asfarviridae

ASF virus is a large double-stranded DNA virus and the only member of the family Asfarviridae; classical swine fever virus is a flavivirus.

33. A. Its epitheliochorial placenta blocks antibody transfer

The ruminant placenta keeps six tissue layers between maternal and fetal blood, so immunoglobulins cannot cross and must be absorbed from colostrum.

34. B. IgE

Immediate (type I) hypersensitivity results from antigen cross-linking IgE bound to mast cells, releasing histamine and other mediators.

35. B. Catalase test

Staphylococci are catalase positive and bubble with hydrogen peroxide, whereas streptococci are catalase negative.

36. D. It lacks a cell wall

Beta-lactams act on cell-wall peptidoglycan synthesis, and mycoplasmas have no cell wall to target.

37. B. Lymnaeid snail

Fasciola species develop in lymnaeid snails, then encyst as metacercariae on vegetation eaten by ruminants.

38. A. Transplacental migration of larvae

Dormant T. canis larvae in the bitch's tissues reactivate during pregnancy and cross the placenta, so puppies may be infected before birth.

39. D. Pulmonary arteries and right heart

Adult heartworms live in the pulmonary arteries and, in heavy infections, the right ventricle; mosquitoes transmit the microfilariae.

40. D. Babesia bigemina

Babesia bigemina forms large paired piriform stages in red cells and causes intravascular hemolysis with hemoglobinuria.

41. A. Surra

Surra is caused by Trypanosoma evansi, an extracellular blood flagellate transmitted mechanically by tabanid and stable flies.

42. A. Haemonchus contortus

Haemonchus contortus, the barber's pole worm, is a blood-sucking abomasal nematode causing anemia and hypoproteinemic bottle jaw.

43. A. Eimeria tenella

Eimeria tenella invades cecal mucosa and causes hemorrhagic cecal coccidiosis, typically in young chickens.

44. C. Sarcoptes scabiei

Canine scabies is intensely pruritic, favors ear margins and elbows, shows a positive pinnal-pedal reflex and is zoonotic.

45. A. Ingesting Taenia solium eggs

Neurocysticercosis develops when humans swallow T. solium eggs and become accidental intermediate hosts; eating cysts in pork gives an intestinal tapeworm instead.

46. D. Dog

Echinococcus granulosus adults live in the small intestine of dogs; ungulates and humans develop hydatid cysts after ingesting eggs.

47. C. Cat

Toxoplasma gondii completes its sexual cycle only in felids, which shed oocysts that contaminate feed and cause abortion in sheep.

48. C. 700

Total volume 30 mL over 2 g; two chambers read 0.3 mL, so the factor is 30 / (0.3 x 2) = 50, and 14 x 50 = 700 EPG.

49. B. 0.6 mL

Dose = 15 kg x 0.2 mg/kg = 3 mg; 3 mg / 5 mg/mL = 0.6 mL.

50. B. Mutation of the MDR1 (ABCB1) gene

The MDR1 mutation impairs P-glycoprotein at the blood-brain barrier, allowing ivermectin to accumulate in the brain.

51. C. Limited glucuronide conjugation capacity

Cats conjugate poorly with glucuronic acid, so more acetaminophen goes to a toxic metabolite that causes oxidative injury and methemoglobinemia.

52. C. Atropine sulfate

Organophosphates inhibit acetylcholinesterase; atropine competitively blocks muscarinic receptors to reverse the parasympathetic signs.

53. B. Alpha-2 adrenergic antagonists

Xylazine is an alpha-2 agonist, so antagonists such as yohimbine or atipamezole reverse its effects.

54. A. Withdrawal period

The withdrawal period is the time needed for drug residues in milk, meat or eggs to fall below the maximum residue limit.

55. A. Aminoglycoside nephrotoxicity

Aminoglycosides accumulate in proximal tubular cells and cause acute tubular necrosis, especially in young or dehydrated animals.

56. B. Chloramphenicol

Chloramphenicol can cause rare idiosyncratic, often fatal aplastic anemia in people, so its use in food animals is banned.

57. C. Vitamin K1 (phytonadione)

Second-generation anticoagulant rodenticides block vitamin K recycling; vitamin K1 restores clotting factor synthesis, while K3 is ineffective.

58. A. Methylene blue

Nitrate converted to nitrite in the rumen oxidizes hemoglobin to methemoglobin; methylene blue speeds its reduction back to hemoglobin.

59. A. Sodium nitrite and sodium thiosulfate

Cassava contains cyanogenic glycosides; nitrite forms methemoglobin that binds cyanide, and thiosulfate converts it to less toxic thiocyanate.

60. D. 10 micrograms/mL

12 hours is three half-lives: 80 to 40 to 20 to 10 micrograms/mL.

61. D. 2.0 L

Deficit (L) = body weight (kg) x dehydration fraction = 25 x 0.08 = 2.0 L.

62. C. 25 drops/min

Daily volume = 10 x 60 = 600 mL, or 25 mL/h; with 60 drops/mL, 25 mL/h equals 25 drops/min.

63. B. Slow intravenous calcium borogluconate

These are signs of parturient paresis (milk fever) from hypocalcemia, treated by slow IV calcium while monitoring the heart.

64. D. Ketosis

Negative energy balance in early lactation leads to ketone body accumulation, causing inappetence, falling yield and an acetone breath odor.

65. C. Left displaced abomasum

A gas-filled abomasum displaced between the rumen and the left body wall produces a characteristic ping over the left last ribs.

66. D. Antifoaming agent given by tube

Legume bloat is frothy, so gas is trapped in a stable foam; surfactant antifoaming agents such as poloxalene or oil break the foam.

67. D. Hyperkalemia

Urethral obstruction prevents potassium excretion, and the resulting hyperkalemia slows cardiac conduction and causes bradycardia.

68. B. Canine distemper

Canine distemper virus may cause hard pad disease and myoclonus as late signs after respiratory and gastrointestinal illness.

69. D. Low-dose dexamethasone suppression test

These signs suggest hyperadrenocorticism, and failure of cortisol to suppress after low-dose dexamethasone supports the diagnosis.

70. C. Doxycycline

Monocytic ehrlichiosis caused by Ehrlichia canis, spread by Rhipicephalus sanguineus, responds to doxycycline.

71. C. Gastric dilatation-volvulus

Gastric dilatation-volvulus typically affects large deep-chested breeds and causes tympany with non-productive retching, rapidly progressing to shock.

72. D. 520 mL

Volume = 20 x 90 x (25 - 12) / 45 = 1,800 x 13 / 45 = 520 mL.

73. C. Proliferative (repair) phase

Granulation tissue, fibroplasia and new capillaries characterize the proliferative or repair phase of wound healing.

74. C. Polydioxanone

Polydioxanone is a synthetic absorbable monofilament; nylon, polypropylene and steel are non-absorbable.

75. D. Suspensory ligament of the ovary

The suspensory ligament anchors the ovary to the last ribs, and breaking it allows the ovary to be exteriorized for ligation.

76. C. T13, L1 and L2

The dorsal and ventral branches of T13, L1 and L2 supply the skin, muscles and peritoneum of the flank.

77. B. Open fracture

A fracture that communicates with the outside through a skin wound is open, and carries a high risk of infection.

78. B. 121 degrees Celsius

Saturated steam at about 15 psi reaches 121 degrees Celsius, which kills spores with adequate exposure time.

79. C. Elongated soft palate

Brachycephalic airway syndrome usually includes stenotic nares and an elongated soft palate, often with everted laryngeal saccules.

80. B. Cranial cruciate ligament

A positive cranial drawer sign indicates loss of the cranial cruciate ligament, which normally prevents cranial tibial translation.

81. B. Hip joint laxity from dysplasia

This is a positive Ortolani sign, which shows hip laxity consistent with canine hip dysplasia.

82. C. ASA IV

ASA III is severe systemic disease, ASA IV is severe systemic disease that is a constant threat to life, and ASA V is moribund.

83. A. Hotz-Celsus procedure

Entropion is corrected by excising a crescent of skin below the eyelid margin (Hotz-Celsus) to evert the lid.

84. C. 8 mL

Dose = 20 x 4 = 80 mg; 80 mg / 10 mg/mL = 8 mL.

85. C. June 23, 2025

Counting 114 days from March 1 (30 in March after day 1, 30 in April, 31 in May, 23 in June) gives June 23.

86. A. 21 days

The bovine estrous cycle averages about 21 days, so the next heat is expected roughly three weeks later.

87. D. Later that same afternoon or evening

Ovulation occurs roughly a day after onset of standing heat, so cows seen in heat in the morning are inseminated that afternoon or evening.

88. A. Cat

The queen ovulates only after vaginal stimulation triggers an LH surge, unlike the spontaneous ovulators listed.

89. D. Short-day breeders

Melatonin secretion rises with longer nights and stimulates GnRH release in the ewe, making sheep short-day breeders.

90. A. Progesterone

Pyometra develops in diestrus, when progesterone promotes endometrial gland secretion and suppresses uterine immunity and contractility.

91. D. Shared placental circulation with the male twin

In freemartins, placental vascular anastomoses let male hormones and cells reach the female fetus, masculinizing her reproductive tract.

92. B. A responsive corpus luteum

PGF2-alpha is luteolytic, so it shortens the cycle only in cows with a mature functional corpus luteum.

93. B. Seminiferous tubules during spermatogenesis

Primary sperm defects originate during spermatogenesis in the testis, whereas secondary defects develop later in the epididymis or during handling.

94. D. The cow is pregnant

Membrane slip is a positive sign of pregnancy in cattle, felt as the chorioallantois slides within the gently compressed uterine horn.

95. C. Equine chorionic gonadotropin

Endometrial cups of fetal trophoblast origin secrete eCG, which supports formation of accessory corpora lutea.

96. B. 1.54

Services per conception = 80 / 52 = 1.54, which corresponds to a conception rate of 65%.

97. D. 7.0%

Prevalence = existing cases / population at that time = 84 / 1,200 = 0.07, or 7%.

98. B. 90%

Sensitivity = true positives / all diseased = 81 / 90 = 0.90, or 90%.

99. A. 95%

Specificity = true negatives / all non-diseased = 190 / 200 = 0.95, or 95%.

100. D. Incidence

Incidence measures new cases developing in a population at risk over a defined period, while prevalence counts all existing cases at a point in time.

101. C. Republic Act No. 9482

RA 9482 is the Anti-Rabies Act of 2007; RA 9268 is the Veterinary Medicine Act, RA 8485 the Animal Welfare Act and RA 10611 the Food Safety Act.

102. D. Ante-mortem inspection

Ante-mortem inspection examines animals at rest before slaughter, so diseased or suspect animals can be condemned or slaughtered separately.

103. A. Trichinella spiralis

Trichinella spiralis larvae encyst in striated muscle, and eating undercooked infected pork causes trichinellosis with myositis and edema.

104. A. 72 degrees Celsius for 15 seconds

HTST pasteurization heats milk to about 72 degrees Celsius for 15 seconds; batch pasteurization uses about 63 degrees Celsius for 30 minutes.

105. A. Q fever

Coxiella burnetii is shed heavily in placentas and birth fluids, and inhaling contaminated dust causes Q fever.

106. D. Metazoonosis

Metazoonoses need an invertebrate host for transmission; cyclozoonoses need more than one vertebrate host, and saprozoonoses need a non-animal reservoir.

107. D. 6.0

Odds ratio = (40 x 60) / (20 x 20) = 2,400 / 400 = 6.0.

108. C. 4.0

Risk in exposed = 30 / 150 = 0.20; risk in unexposed = 10 / 200 = 0.05; relative risk = 0.20 / 0.05 = 4.0.

109. A. 20%

Parts corn = 44 - 16 = 28; parts soybean meal = 16 - 9 = 7; soybean meal = 7 / 35 = 20%.

110. D. 1.8

FCR = feed consumed / weight gained = 3,600 / 2,000 = 1.8.

111. B. 48 kg

As-fed amount = dry matter needed / DM fraction = 12 / 0.25 = 48 kg.

112. D. Nutritional muscular dystrophy

Selenium and vitamin E deficiency causes nutritional muscular dystrophy (white muscle disease) with pale necrotic muscle.

113. D. Magnesium

Grass tetany is acute hypomagnesemia, common in lactating cattle on lush grass high in potassium and low in magnesium.

114. C. Zinc

Parakeratosis in swine is caused by zinc deficiency, which excess dietary calcium makes worse by reducing zinc absorption.

115. B. Thiamine

Polioencephalomalacia in ruminants is associated with thiamine deficiency, often due to rumen thiaminases on high-grain diets, and responds to thiamine.

116. D. Sheep

Sheep store copper readily in the liver with limited biliary excretion, so excess intake leads to a sudden release and hemolytic crisis.

117. B. Murrah

Murrah is a riverine buffalo breed known for milk; Brahman are cattle, Anglo-Nubian are goats and Landrace are pigs.

118. C. Landrace

The Landrace is a long, white, lop-eared breed widely used as a maternal line for its prolificacy and mothering ability.

119. C. White Leghorn

White Leghorn strains are small-bodied, efficient layers of white eggs; the other breeds lay brown eggs or are meat types.

120. D. Rumen microbes use its ammonia to make protein

Rumen microorganisms convert urea to ammonia and use it to build microbial protein, which the host then digests; monogastric animals cannot.

Topics to review

• Comparative anatomy and physiology

• Pathology, parasitology and microbiology

• Clinical reasoning across animal species

• Herd health, public health and food safety

Online question banks and study resources

Veterinary Medicine - Pass Harbor (Question bank)

Official PRC board information

Current PRC exam programs

Independent study material prepared by Board Exam Desk.