

Veterinary Technology Question Bank

1. What can ONLY a veterinarian do:
 - a. Prescribe medications
 - b. Perform surgery
 - c. Provide a diagnosis and a prognosis
 - d. All of the above
2. The capillary refill time (CRT) for Buddy is 1 second. In the patient chart, the CVA records that the CRT for Buddy is:
 - a. Abnormally low
 - b. Normal
 - c. Abnormally high
 - d. Not enough information to record
3. When evaluating the integumentary system of Rowdy, a Palomino, the CVA would evaluate all of the following areas EXCEPT:
 - a. Skin and hide
 - b. Mucous membranes
 - c. Hooves
 - d. Hair
4. When an animal is presented with an abnormality cranial to a certain body structure, the word cranial means:
 - a. Toward the head
 - b. Toward the tail
 - c. Toward the nose
 - d. Closest to the midline
5. The feline's first line of defense is:
 - a. Its teeth
 - b. Its claws
 - c. Its tail
 - d. Its hind legs
6. You are restraining a Besenji dog for cephalic venipuncture. When the person performing the injection has placed the needle and is ready to inject the drug, he says to you, "Okay." He is most likely asking you to:
 - a. Verbally indicate that he has made contact with the vein
 - b. Lift the thumb that is occluding the vein
 - c. Release the animal from restraint
 - d. Roll the vein in the opposite direction

7. An otherwise healthy veterinary technician, Anna, is bitten by a 2-year-old mixed-breed dog, "Tow Tow," while restraining him for a pedicure. The bite does not cause severe tissue damage, but the canine teeth penetrate her skin and she does bleed. Tow Tow is current on all of his vaccinations including rabies. He lives primarily in the backyard of his owner's suburban home. What is the best, first action Anna should take following the bite?

- a. Ignore the bite until she has time to wash it, even though this may not be for a few hours. Once there is time, also inform the veterinarian or office manager.
- b. Wash the wound immediately with soap and water, then with povidone-iodine, and follow with a thorough irrigation with water, then inform the veterinarian or office manager.
- c. Wait until she gets home and clean the wound, without notifying the veterinarian because she fears she will be reprimanded.
- d. Tell a coworker about it, but take no more action regarding the incident.

8. Anemia is:

- a. The study of parasites.
- b. A single celled animal.
- c. A decrease in the number of red blood cells.
- d. A disease that can be transmitted from animals to humans.

9. Pericardium is:

- a. The muscular layer of the heart wall.
- b. The fibrous sac that encloses the heart.
- c. A thin layer that lines the surface of the heart.
- d. A thin layer that lines the inside of the heart.

10. A compound fracture is one in which:

- a. The break is along the axis of a bone.
- b. The bone shatters in the many pieces.
- c. The break is on one side of the bone.
- d. The bone breaks through the skin.

11. An orchiectomy:

- a. Removal of the ovaries and uterus.
- b. Removal of the testes.
- c. An incision into the thorax.
- d. Removal of a tumor.

12. Microfilaria are:

- a. The larval stage of the heartworm.
- b. The segment of the tapeworm containing the male and female reproductive organs.
- c. Microscopic single celled organisms.
- d. None of the above.

13. The abomasum is:

- a. The first compartment of the ruminant stomach.
- b. The second compartment of the ruminant stomach.
- c. The third compartment of the ruminant stomach.
- d. The fourth compartment of the ruminant stomach.

14. The function of the cecum is to:
 - a. Produce bile.
 - b. Aide in the digestion of fibrous materials.
 - c. Produce insulin.
 - d. None of the above.
15. Carbohydrates contain or include:
 - a. Amino Acids
 - b. Simple Sugars
 - c. Lipids
 - d. None of the above
16. Which organization governs the use, storage and disposal of controlled substances?
 - a. EPA
 - b. DEA
 - c. OSHA
 - d. None of the above
17. Which zoonotic disease is fatal in humans?
 - a. Corona
 - b. Rabies
 - c. Parvovirus
 - d. Scabies
18. Diseases that can be transmitted to humans are known as:
 - a. Contagious
 - b. Benign
 - c. Malignant
 - d. Zoonotic
19. Which of the following is not a disease that affects dogs?
 - a. Rabies
 - b. Distemper
 - c. Black Leg
 - d. Hepatitis
20. Which of the following substances is not considered a bio-hazardous substance?
 - a. Scalpel blade
 - b. Syringe
 - c. Microscope Slide
 - d. Needle
21. Which of the following bedding materials is most commonly used in the small animal clinic?
 - a. Pine Shavings
 - b. Newspaper
 - c. Blankets and Towels
 - d. Straw
22. Which of the following needles has the smallest bore?
 - a. 16 gauge
 - b. 20 gauge
 - c. 21 gauge
 - d. 25 gauge

23. Which of the following needles would most commonly be used for canine vaccinations?
- a. 16 gauge
 - b. 20 gauge
 - c. 21 gauge
 - d. 25 gauge
24. Which of the following acronyms is used when administering medication twice a day?
- a. TID
 - b. QID
 - c. BID
 - d. SID
25. Which of the following animals would be classified as a Hound Breed?
- a. Chihuahua
 - b. Dachshund
 - c. Cocker Spaniel
 - d. French Bulldog
26. Which of the following cattle breeds would be considered a dairy breed?
- a. Shorthorn
 - b. Polled Hereford
 - c. Brown Swiss
 - d. Gelbvieh
27. Which of the following hazards is associated with radiography?
- a. Hearing loss
 - b. Burns or scalds
 - c. Cancer
 - d. None of the above.
28. Determine the number of pounds in 10.5 kilograms.
- a. 25.5
 - b. 24.6
 - c. 21.9
 - d. 23.1
29. Which of the following parasites is considered an endoparasite?
- a. Fleas
 - b. Ticks
 - c. Hookworms
 - d. Mites
30. Dystocia can be defined as:
- a. The carrying of an embryo or fetus.
 - b. The process of giving birth.
 - c. Abnormal or difficult birth.
 - d. A birth in which the offspring enters the birth canal hind end first.

31. Referring to the lower or bottom view:

- a. Dorsal
- b. Ventral
- c. Cranial
- d. Anterior

32. Which of the following breeds of sheep is considered a fine wool breed?

- a. Southdown
- b. Suffolk
- c. Hampshire
- d. Rambouillet

33. Kyra, a 7-year-old, F/S mixed breed dog (107 lb) is presented to the clinic with signs of increases vocalization and urine leaking. She does not appear to be PU/PD (increased urination/increased drinking) or having accidents due to lack of training. She usually leaks urine after she has lain down (her bed is damp). The U/A (urinalysis) is WNL as the PE. Scout radiographs of the urinary bladder are unremarkable. Based on her history and pattern of urine leaking, the vet determines that she might have estrogen responsiveness incontinence. She is prescribed DES (diethylstilbestrol) at a dosage of 1 mg po sid for 3 days, followed by maintenance therapy of 1 mg po per week. DES comes in 1-mg and 5-mg tablets.

How many tablets does this dog receive for the first three days?

- a. 5
- b. 4
- c. 3
- d. 2

34. Indicate the tablets/capsules prescribed for the following order:

Rx: Metronidazole tablets 250 mg

Sig: 1 tablet, P.O., BID x 10 days

- a. 10 tablets
- b. 20 tablets
- c. 30 tablets
- d. 40 tablets

35. You regularly order six 10-ml vials per month of a drug that has a concentration of 50 mg/ml. Now that same drug is only available in 20-ml vials of 10 mg/ml. How many vials should you order this month?

- a. 25 vials
- b. 20 vials
- c. 15 vials
- d. 10 vials

36. The order is for 500 mg of amoxicillin, and tablets on hand are 250 mg. How many tablets will be administered?

- a. 1 tablet
- b. 2 tablets
- c. 5 tablets
- d. 6 tablets

37. Indicate the minimum amount of tablets/capsules prescribed for the following order:

Rx: Ascription tablets

Sig: 1 tab P.O., BID x 14 days then 1 tab BID prn

a. 28 tablets

b. 24 tablets

c. 20 tablets

d. 16 tablets

38. A 13-year old M/N domestic short hair (DSH) named Buttons has a bite wound in the right side of the mandible. The owner does not know when the cat got the bite wound because Buttons is an outside cat. He has not been eating or drinking the past few days, is lethargic, and on PE has a $T = 103.5^{\circ}$, HR = 180 bpm, and RR = 45 breaths/min. Other than the mandibular wound, he is healthy. He is current on vaccinations. The decision is made to sedate Buttons so that the wound can be clipped, cleaned, and debrided. You must calculate the dose of injectable anesthetic for Buttons, who weighs **12.5 lb**. The dosage of Ketamine is 22 mg/kg IM. The concentration listed on the vial of ketamine is 100 mg/ml.

The animal's weight in kg is?

a. 2.4 kg

b. 5.7 kg

c. 7.1 kg

d. 9.9 kg

39. The order is 0.5 mg of Centrine, and 0.2 mg tablets are on hand. How many tablets will be administered?

a. 1.0 tablets

b. 1.5 tablets

c. 2.0 tablets

d. 2.5 tablets

40. A cat in end-stage renal disease is receiving Epoetin (2000 u/ml). The dose is 100 u/kg. Your patient weighs 5.5 lb. How many units will you deliver?

a. 250

b. 500

c. 750

d. 1000

41. Translate the following into percents: 1:100

a. .05%

b. .5%

c. 1%

d. 1.5%

42. 1000 mg = _____ g

a. .001

b. .01

c. 1

d. 10

43. How many mgs of a drug should be given to a patient weighing 22 lb if the dose is 0.2 mg/kg?

- a. 2 mg
- b. 2.2 mg
- c. 22 mg
- d. 22.2 mg

44. Indicate the tablets/capsules prescribed for the following order:

Rx: Cephalexin capsules 250 mg

Sig: 2 caps P.O., STAT; then 1 cap P.O., BID x 14 days

- a. 30 capsules
- b. 40 capsules
- c. 50 capsules
- d. 60 capsules

45. The veterinarian orders 4.4 mg/kg of Carprofen for pain control divided into two equal daily doses for a 50-lb dog. On hand are 100-mg scored tablets. How many tablets is/are administered each morning and afternoon?

- a. 5 tablets in the morning and 2 in the afternoon
- b. 1 tablet in the morning and afternoon
- c. .5 tablets in the morning and 1 in the afternoon
- d. .5 tablets in the morning and afternoon

46. The level of fluid in the liter bags reads at the 700 mark. How much fluid has been given?

- a. 700 L
- b. 700 ml
- c. 300 L
- d. 300 ml

47. Fenbendazole (10% suspension) is an antiparasitic drug used in the treatment of whipworms, roundworms, hookworms, and some species of tapeworms. For dogs the dosage is 50 mg/kg P.O. for 3 days.

How many mls would you give a dog that weighs 50 lbs?

- a. 9.5 mls
- b. 11.4 mls
- c. 12.1 mls
- d. 14.3 mls

48. Kyra, a 7-year-old, F/S mixed breed dog (107 lb) is presented to the clinic with signs of increased vocalization and urine leaking. She does not appear to be PU/PD (increased urination/increased drinking) or having accidents due to lack of training. She usually leaks urine after she has lain down (her bed is damp). The U/A (urinalysis) is WNL as the PE. Scout radiographs of the urinary bladder are unremarkable. Based on her history and pattern of urine leaking, the vet determines that she might have estrogen responsiveness incontinence. She is prescribed DES (diethylstilbestrol) at a dosage of 1 mg P.O. SID for 3 days, followed by maintenance therapy of 1 mg po per week. DES comes in 1-mg and 5-mg tablets.

How many mg does this dog receive for 3 weeks of treatment?

- a. 3
- b. 5
- c. 7
- d. 9

49. "Max" needs 30 mg. of Gentocin IV. Gentocin comes in two different concentrations; 50 mg/ml or 100 mg/ml.

Using 50 mg/ml, how many ml would you draw up? AND

Using 100 mg/ml, how many ml would you draw up?

- a. 0.6 ml and 0.3 ml
- b. 6 ml and 3 ml
- c. 0.3 ml and 0.6 ml
- d. 3 ml and 6 ml

50. 0.2 L = _____ ml

- a. 2
- b. 20
- c. 200
- d. 2000

51. To prevent inhaling gas when you are monitoring anesthesia, it is best for you to stand:

- a. Close to the patient's head.
- b. Away from the patient's head.
- c. Anywhere in the room.
- d. Outside of the room.

52. When treating or assisting a doctor with an animal's abscess wound, it is important to:

- a. Wear disposable gloves.
- b. Disinfect the treatment counter thoroughly.
- c. Wash and disinfect all instruments used.
- d. All of the above.

53. If you are bitten, scratched or cut when working around animals, you should:

- a. Wash thoroughly with water and a disinfecting soap, then notify your supervisor.
- b. Quickly rinse out the area.
- c. Just wipe the blood off and bandage if needed.
- d. None of the above.

54. Rabies is transmitted through:
- a. Blood from the affected animal
 - b. Urine from the affected animal
 - c. Feces from the affected animal
 - d. Saliva from the affected animal
55. Lyme disease is caused by a:
- a. Bacteria
 - b. Virus
 - c. Parasite
 - d. Fungus
56. One of the fastest means of getting drugs into the bloodstream is:
- a. Orally
 - b. Intranasally
 - c. Topically
 - d. Intravenously
57. Nebulized is defined as:
- a. Turned into a liquid
 - b. Turned into a fine mist
 - c. Turned into molecules
 - d. Turned into oxygen
58. The Snap Canine Heartworm Test tests the blood for:
- a. Adult heartworms
 - b. Antigen produced by female heartworms
 - c. Microfilaria
 - d. Female heartworms only
59. When in the heart, heartworms congregate in the:
- a. Right ventricle
 - b. Right atrium
 - c. Left ventricle
 - d. Left atrium
60. The amount of fecal matter needed for a canine or feline fecal analysis is approximately:
- a. The size of a baseball
 - b. The size of a golf ball
 - c. The size of a grapefruit
 - d. The size of a grape
61. Which internal parasite is the most common in puppies and kittens?
- a. Roundworm
 - b. Hookworm
 - c. Whipworm
 - d. Giardia
62. The roundworm is often described as looking like:
- a. Rice
 - b. Spaghetti
 - c. Flakes
 - d. Leech

63. Whipworm eggs look like a/an _____ under a microscope.
- a. Circle
 - b. Oval
 - c. Rectangle
 - d. Cone
64. Which type of mite can cause a zoonotic disease?
- a. Demodectic
 - b. Otodectes
 - c. Sarcoptic
 - d. All of the above
65. What is the vector for heartworms?
- a. Tick
 - b. Lice
 - c. Flea
 - d. Mosquito
66. Ideally, a horse should be bedded on:
- a. Newspaper
 - b. Straw
 - c. Walnut shavings
 - d. Wood shavings
67. Which of the following disinfectants is toxic to cats?
- a. Phenols
 - b. Bleach
 - c. Quats
 - d. None of the above
68. What is the common percentage of Brahman and British breeds in American cattle?
- a. 3/5, 2/5 cross
 - b. 3/7, 4/7 cross
 - c. 1/3, 2/3 cross
 - d. 3/8, 5/8 cross
69. Which of the following breeds of dairy cattle produces the most milk?
- a. Jersey
 - b. Guernsey
 - c. Holstein
 - d. Brown Swiss
70. The breed of swine that is characterized by being solid black with a white belt at the shoulder and small erect ears is the:
- a. Duroc
 - b. Spots
 - c. Hereford
 - d. Hampshire

71. The _____ is white in color and has large, drooping ears that cover most of its face.

- a. Yorkshire
- b. Chester White
- c. American Landrace
- d. Hereford

72. Which breed of swine is characterized by being black in color with four white feet and/or legs, a short wrinkled snout, and medium erect ears?

- a. Spots
- b. Berkshire
- c. Hereford
- d. Hampshire

73. The _____ is characterized by having a red and white face (not less than 2/3 red, exclusive of face and ears), with at least 2 white feet, long face/snout, and small to medium erect ears.

- a. American Landrace
- b. Hereford
- c. Berkshire
- d. Duroc

74. An eight month old Chihuahua was stung by a wasp and had a fluctuation in its heart rate. Which term describes its fluctuating heart rate?

- a. Arrhythmia
- b. Auscultation
- c. Bradycardia
- d. Tachypnea

75. Annie is helping to examine a patient. She is instructed to take the temperature, pulse, and respiration, which is a crucial part of a physical exam. Which of the following factors does not affect TPR?

- a. age
- b. size
- c. environmental temperature
- d. breed

76. Which of the following answers best completes this statement?

Temperature, pulse and respiration rates tend to _____ as size of the animal _____.

- a. increase, decreases
- b. decreases, decreases
- c. shallow, decreases
- d. decreases slowly, decreases rapidly

77. A vet diagnosed Bill's lamb with dyspnea. What does this mean?

- a. The lamb has normal breathing.
- b. The lamb has abnormal heart sounds.
- c. The lamb has difficulty breathing.
- d. The lamb has bluish discoloring of its skin.

78. Jane is taking a dog's pulse. What is the name of the artery where she will do this?
- a. Femoral artery
 - b. Brachiocephalic artery
 - c. Facial artery
 - d. Carotid Artery
79. During an exam, Julie must take vital signs from an animal. Which of the following steps is the most correct procedure for her to take the rectal temperature?
- a. Shake down thermometer, lubricate with petroleum jelly, gently insert and hold for 1 minute, remove and rotate to read.
 - b. Shake down thermometer, lubricate with petroleum jelly, gently insert and hold for 3 minutes, remove and rotate to read.
 - c. Wipe thermometer with alcohol, shake down thermometer, lubricate with petroleum jelly, gently insert and hold for 1 minute, remove and rotate to read.
 - d. Wipe thermometer with alcohol, shake down thermometer, lubricate with petroleum jelly, gently insert and hold for 3 minutes, remove and rotate to read.
80. The average pulse (beats/min) and respiration (breaths/min) for a horse is
- a. 40-60, 12-20
 - b. 60-70, 10-30
 - c. 30-60, 8-16
 - d. 60-90, 12-20
81. A stethoscope is a common piece of equipment used for clinical exams. The stethoscope is used to listen to the heart, lungs, and _____.
- a. murmurs
 - b. gastrointestinal sounds
 - c. pre-natal sounds
 - d. water on the lungs
82. The veterinarian is describing to Spike's owner how he will be neutered. Neuter is defined as:
- a. Having resistance to a disease
 - b. The common term for removal of male reproductive organs
 - c. Proteins produced by lymph system
 - d. Swelling and inflammation
83. The veterinarian is explaining to Sally's owner how she will be spayed. Spay is defined as:
- a. Substance that induces an immune response
 - b. Swelling and inflammation
 - c. The common term for removal of female reproductive organs
 - d. Allergic response
84. If an animal was suffering from anaphylactic shock, it would be
- a. An exaggerated allergic response
 - b. Proteins produced by lymph system
 - c. Minerals in the blood stream
 - d. Slippery white film

85. An animal is being given a vaccine. Vaccine is defined as
- a. A suspension of killed or modified microorganisms that stimulate an immune response when introduced into the body
 - b. Swelling and inflammation
 - c. More susceptible to disease
 - d. Having no resistance to disease
86. An animal is vaccinated for rabies. Rabies is caused by:
- a. A rhabdovirus
 - b. Parvo virus
 - c. Bacteria
 - d. Fungus
87. Lauren is bandaging Bruce, a four year old horse. Leg bandages on horses are started on the _____ part of the leg and wrapped toward the back.
- a. Vertical
 - b. Horizontal
 - c. Lateral
 - d. Proximal
88. The bellyband should _____ slightly as it is wrapped.
- a. Overlap
 - b. Space out
 - c. Cut off circulation
 - d. Never touch
89. Immunity is defined as:
- a. Having resistance to a disease due to the formation of antibodies.
 - b. Slow and painful abscess
 - c. Rhabdovirus
 - d. Not being able to tolerate disease
90. A kitten is suffering from FCV. Feline calicivirus is caused by:
- a. RNA virus
 - b. Fungus
 - c. Bacteria
 - d. Does not exist
91. Feline viral Rhinotracheitis symptoms include:
- a. Sneezing, discharge from nose and eyes
 - b. Anorexia
 - c. Aggression
 - d. Licking of wound
92. Leptospirosis is caused by:
- a. Leptospira bacteria
 - b. DNA virus
 - c. Borrelia burgdorferi bacteria
 - d. None of the above

93. Symptoms of distemper include:
- a. Lameness
 - b. Swollen joints
 - c. Aggression
 - d. Fever, vomiting, diarrhea, nasal secretions, and seizures
94. Rabies is transmitted by:
- a. Bite from a tick
 - b. Ingestion of fecal material from infected dog
 - c. Contamination of wound by saliva
 - d. Inhalation bacteria
95. Frank, a 60lb bulldog, needs to receive 60 mg of Prednisone once every other day for 10 days. How many total milligrams of Prednisone does Frank need for 10 days?
- a. 450 mg
 - b. 300 mg
 - c. 900 mg
 - d. 100 mg
96. Sue is taking the temperature and pulse of Max, a medium sized dog. What should she expect the temperature and pulse rate to be?
- a. 100°F and 100-145 beats/min.
 - b. 102°F and 70-120 beats/min.
 - c. 100°F and 70-120 beats/min.
 - d. 101°F and 60-90 beats/min.
97. Linda is going to perform a laboratory test. Where is it possible for her to do this?
- a. Veterinary hospitals
 - b. Research facilities
 - c. Zoos
 - d. All of the above
98. In preparation for her CVA test, Mary is studying systems of the body. Which of these is NOT included in the circulatory system?
- a. Heart
 - b. Lymphatics
 - c. Blood Vessels
 - d. Blood
99. If an animal has problems in the right side of the heart, what other problem will likely occur?
- a. Ascites
 - b. Lung congestion
 - c. Nerve Degeneration
 - d. Osteoporosis
100. Luke, a border collie, has a problem in the left side of the heart. What other problem will likely occur?
- a. Ascites
 - b. Lung congestion
 - c. Nerve Degeneration
 - d. Osteoporosis

101. Mary is studying the physiology of the body systems. Which of these is a function of the circulatory system?
- a. Respiration for the body
 - b. Urination of waste products
 - c. Transportation of nutrients, blood cells, gases, etc.
 - d. Protection of the body
102. Which of these is the correct flow of blood through the heart?
- a. Right Atrium, Right Ventricle, Pulmonary Arteries, Lungs, Pulmonary Veins, Left Atrium, Left Ventricle, Aorta
 - b. Left Atrium, Left Ventricle, Pulmonary Arteries, Lungs, Pulmonary Veins, Right Atrium, Right Ventricle, Aorta
 - c. Right Atrium, Right Ventricle, Pulmonary Veins, Lungs, Pulmonary Arteries, Left Atrium, Left Ventricle, Aorta
 - d. Left Atrium, Left Ventricle, Pulmonary Veins, Lungs, Pulmonary Arteries, Right Atrium, Right Ventricle, Aorta
103. What are the percentages of cells and plasma in blood?
- a. 40% and 60%, respectively
 - b. 50% and 50%, respectively
 - c. 60% and 40%, respectively
 - d. 30% and 70%, respectively
104. Which of these is NOT part of the process of filtration of the blood through the urinary system?
- a. Nephrons
 - b. Medulla
 - c. Vena Cava
 - d. Kidney
105. While Linda was running a laboratory test, she evaluated total plasma protein, and noticed an elevated total plasma protein. This is a sign of
- a. inflammation
 - b. infection
 - c. dehydration
 - d. all of the above
106. In most species, what are the kidneys shaped like?
- a. Pears
 - b. Circles
 - c. Clovers
 - d. Beans
107. Sammy is trying to run a urinalysis. He first has to obtain urine from the dog. How can he obtain urine from an animal?
- a. Free Catch
 - b. Cystocentesis
 - c. Catheterization
 - d. All of the above

108. Sammy is trying to determine the specific gravity of urine. What tools can be used to accomplish this?

- a. Refractometer
- b. Urinometer
- c. Reagent Strips
- d. All of the above

109. Sammy found a decreased specific gravity in the urine. This could indicate all of the following EXCEPT:

- a. increased water intake
- b. shock
- c. chronic renal disease
- d. other diseases

110. If Sammy had noticed an increased specific gravity, it could indicate all of the following EXCEPT:

- a. chronic renal disease
- b. dehydration
- c. decreased water intake
- d. acute renal disease

111. Which of these is a chemical that Sammy would NOT have evaluated in urine?

- a. Ketones
- b. Glucose
- c. Blood
- d. Saline

112. Which of these cells would Sammy NOT expect to see in an examination of urine sediment?

- a. Red blood cells
- b. Viral cells
- c. White blood cells
- d. Epithelial cells

113. I live in a rural farming community where everyone owns some breed of dog. A few houses down from mine lives an Australian Cattle Dog (a.k.a. Blue Heeler) named Rigo. She is quite accustomed to guarding her territory against rodents, skunks, coyotes, and rabbits. Rigo was found with a half-eaten rabbit a few months ago and then gave birth to a litter of eight puppies a few weeks later. When they were old enough for their first set of vaccinations the veterinarian found that all the puppies were infested with hookworms. The veterinarian prescribed medication for all patients, including Rigo, and told my neighbor that they should be rechecked at their next visit. Rigo's hookworm infection could have been caused by which of the following?

- a. Direct – ingested larvae from the environment or contracted larvae through the skin
- b. Indirect – the rabbit could have been infected
- c. Rigo does not have a hookworm infestation
- d. Both a and b

114. Bone Marrow produces:
- a. blood cells
 - b. periosteum
 - c. calcium and phosphorus
 - d. spongy bone
115. Which artery supplies blood to the head?
- a. carotid
 - b. renal
 - c. mesenteric
 - d. iliac
116. Which of these is the scientific name for hookworm?
- a. *Ancylostoma caninum*
 - b. *Dipylidium caninum*
 - c. *Toxocara canis*
 - d. None of the above
117. James accidentally spilled bleach. In order to know the correct clean up procedure to take, he must check the MSDS. The acronym MSDS stands for:
- a. Material Safety from Disease Sheet
 - b. Material Safety Data Sheet
 - c. Mechanical Safety Destruction Sheets
 - d. Mechanical Safety Data Sheet
118. A member of OSHA is doing a walkthrough of a veterinary clinic. The Occupational Safety and Health Administration is housed in
- a. The Department of Health
 - b. The Department of Finance
 - c. The Department of Security
 - d. The Department of Labor
119. Adam has just assisted in restraining a Lhasa Apso for an IM injection. The RVT that gave the injection must now dispose of the needle and syringe. Where must all needles and syringes be disposed of?
- a. A bottle
 - b. A dumpster
 - c. A trashcan
 - d. A sharps container
120. When dealing with radioactive equipment, you should always wear:
- a. lead gloves
 - b. lead apron
 - c. a dosimeter
 - d. all of the above
121. When working in a veterinary clinic, you understand that the guidelines set forth by the Occupational Safety and Health Administration are based on the principle of:
- a. The Right to Know
 - b. The Basis of Knowledge
 - c. The Determination of Knowledge
 - d. The Right of the Knowledge of the Law

122. People who work with animals on a daily basis are _____ faced with potentially dangerous situations.

- a. Never
- b. Sometimes
- c. Always
- d. Rarely

123. Which of the following is NOT a hazard that you would face while working in a veterinary clinic?

- a. Physical hazards
- b. Chemical hazards
- c. Biological hazards
- d. Psychological hazards

124. Which of these is NOT a disease-causing agent for zoonotic diseases?

- a. Fungi
- b. Biologics
- c. Viruses
- d. Parasites

125. Ben may have been exposed to a bacterial zoonotic disease. Which of the following is NOT a zoonotic disease caused by bacteria?

- a. Toxoplasmosis
- b. Leptospirosis
- c. Anthrax
- d. Tuberculosis

126. Which drug schedule has no current accepted medical use?

- a. Schedule I
- b. Schedule II
- c. Schedule III
- d. Schedule IV

127. Cole has been asked to clean the front waiting area of the clinic. With regard to the types of sanitation, which of these best describes “cleaning”?

- a. Physically removing all visible signs of dirt and organic matter such as feces, hair, etc.
- b. Destroying most microorganisms on nonliving things by physical or chemical means.
- c. Destroying all microorganisms and viruses on an object using chemicals and/or heat.
- d. Solutions that destroy microorganisms or inhibit their growth on living tissue.

128. When sanitizing, filtration is best described as:

- a. Using a chemical with a mop or sponge.
- b. Soaking items in a chemical disinfectant until they are used.
- c. Incinerating an object or exposing them to a flame.
- d. Removing particles from the air using a physical barrier.

129. Dana has been asked to dispense a schedule drug as a pain killer for an animal that has had a hip replacement. According to the Controlled Substance Act, she must:
- understand the schedules that drugs are placed in and why.
 - have an authorized person unlock the locked cabinet where the drugs are stored.
 - ensure that the name and amount of drug used is recorded in the daily log.
 - All of the above.
130. Sugar, a small dog, has come into a veterinary clinic with sarcoptic mange. To prevent the spread of this and other zoonotic diseases, you need to:
- dispose of waste in a proper manner
 - isolate infected animals
 - wash hands often
 - all of the above
131. Evan is creating a poster over biohazards for his Veterinary Technology class. Which of these is NOT an example of a biohazard and therefore should not be included in his poster?
- Needles
 - Materials soaked with bodily fluids
 - Bandage material
 - None of the above
132. Fran is doing research on pathogens. A pathogen is:
- A microorganism that produces disease.
 - Disease that can be transmitted between animals and humans.
 - Precautions taken to prevent contamination of a surgical wound.
 - Refers to the back.
133. A veterinarian has diagnosed an animal with typhus, which is a zoonotic disease. Zoonotic means:
- Disease that can be transmitted between animals and humans.
 - Precautions taken to prevent contamination of a surgical wound.
 - Refers to the back.
 - A device that measures the amount of radiation someone is exposed to when performing radiology.
134. Proper protective equipment (PPE) sometimes includes a dosimeter. This is:
- A device that measures the amount of radiation someone is exposed to when performing radiology.
 - Lead gloves
 - A device that keeps animals from biting you.
 - Something that covers your face while working with animals.
135. Aseptic technique is:
- Precautions taken to prevent contamination of a surgical wound.
 - Cleaning surfaces with bleach
 - Swabbing for a bacteria culture
 - A chemical agent that kills or prevents the growth of microorganisms

136. While cleaning an exam room, Abby uses a disinfectant. This is:
- a. A chemical agent that kills, or inhibits the growth of microorganisms on inanimate objects.
 - b. a washcloth and hot water
 - c. something that contaminates surfaces
 - d. a chemical agent that allows that growth of microorganisms on inanimate objects
137. An animal has a superficial wound. Superficial means:
- a. Near the surface, also called external.
 - b. deep laceration
 - c. a wound that is on the extremities of an animal
 - d. on an organ.
138. Most surgical instruments are manufactured from _____.
- a. Aluminum
 - b. Copper
 - c. Lead
 - d. Stainless steel
139. The operating room should be cleaned _____.
- a. Daily
 - b. Weekly
 - c. Bi-weekly
 - d. Monthly
140. Which of the following would be considered a brachycephalic breed?
- a. Labrador Retriever
 - b. Dachshund
 - c. Shih Tzu
 - d. Border Collie
141. When a patient is having an ovariohysterectomy performed, the patient is placed in _____ recumbency.
- a. Lateral
 - b. Dorsal
 - c. Ventral
 - d. Sternal
142. After autoclaving a surgical pack, you notice that the autoclave tape looks the same as it did when you placed it in the autoclave. What should you do now?
- a. Place the pack with the others – there is no reason to be concerned about the sterility of the instruments.
 - b. Open the pack to check the instruments for sterility. If they look clean, they can be used.
 - c. Just hide the pack so you do not get in trouble for it not being sterilized.
 - d. Place the pack to the side and do not allow it to be used because the sterility of the pack is questionable.

143. A person who cares for equine feet including trimming and shoeing is called a/an:
- a. equestrian
 - b. farrier
 - c. hobble
 - d. quittor
144. The amount of food provided to livestock in a 24-hour period is its:
- a. graze
 - b. ration
 - c. roughage
 - d. silage
145. Examination by tapping the surface to determine density of a body area is called:
- a. palpation
 - b. auscultation
 - c. percussion
 - d. tapping
146. The percentage of RBCs in blood is called a:
- a. hematocrit
 - b. PCV
 - c. crit
 - d. all of the above
147. A machine that spins samples very rapidly to separate elements based on weight is a:
- a. counter
 - b. centrifuge
 - c. refractometer
 - d. cannula
148. A set of signs that occur together is called a/an:
- a. sign
 - b. symptom
 - c. endemic
 - d. syndrome
149. The study of disease causes is:
- a. etiology
 - b. toxicology
 - c. biology
 - d. pathology
150. You are doing maintenance on an anesthesia machine. You happen to notice that the granules in the canister are starting to turn purple. What does this usually indicate?
- a. The granules are more than 90 days old.
 - b. The granules have lost the ability to absorb anesthetic gases.
 - c. The granules should be turned over in the canister – they will regain
 - d. The granules have lost the ability to absorb carbon dioxide.

151. A normal capillary refill time (CRT) is:
- a. 5+ seconds
 - b. 4-5 seconds
 - c. 3-4 seconds
 - d. 1-2 seconds
152. Six 12 ounce puppies need deworming medication. If the dose is 1ml/lb, how many total ml do you need in order to deworm all of the puppies?
- a. 4.5 mls
 - b. 5.7 mls
 - c. 6.9 mls
 - d. 7.8 mls
153. The veterinarian requests 600 cc of a solution. The instrument used to measure only has marks for mls. You know the correct equivalent of 600 cc in mls because:
- a. cc and mls are equivalent.
 - b. A cc is twice the amount of a ml
 - c. A ml is twice the amount of a cc
 - d. A ml is half the amount of a cc
154. Six blood pressure readings are 115, 120, 123, 121, 121, and 112 mm Hg. What is the average value rounded to the nearest whole number?
- a. 104
 - b. 113
 - c. 119
 - d. 124
155. $\frac{1}{4}$ of a L is equivalent to:
- a. 250 ml
 - b. 500 ml
 - c. 750 ml
 - d. 1000 ml
156. What are the two factors that determine or influence an animal's disposition?
- a. genetic make-up and environmental situation
 - b. environmental situation and nutrition
 - c. nutrition and housing
 - d. housing and genetic make-up
157. If you had a horse that had a 102.4°F, would you be concerned?
- a. No, it is completely normal.
 - b. Yes, it is above normal.
 - c. No, it is a little below normal.
 - d. Yes, it is extremely below normal.
158. Your chicken has a heart rate of 275 beats per minute. Is that something to be worried about?
- a. Yes, that is above normal.
 - b. Yes, that is below normal.
 - c. No, that is normal.
 - d. No, that is below normal.

159. Which of the following hormones is the most primary hormone produced by the testes?

- a. Estrogen
- b. Testosterone
- c. Progesterone
- d. Oxytocin

160. Which of the following is not a primary action of testosterone?

- a. Anabolic growth
- b. Promotes spermatogenesis
- c. Promotes secretions from accessory glands
- d. None of these

161. What are the anatomical differences between the oviducts of most mammals and the oviducts of poultry?

- a. Mammals have one oviduct.
- b. Mammals do not have oviducts.
- c. Poultry do not have oviducts.
- d. Poultry have one oviduct.

162. What is the main difference between the testes of mammals and the testes of poultry?

- a. Mammals have one testicle.
- b. The testes of poultry do not descend out of the abdominal cavity.
- c. Poultry have one testicle.
- d. The testes of mammals do not descend out of the abdominal cavity.

163. What is the purpose of the infundibulum?

- a. To transport the egg from the ovary to the oviduct.
- b. To expel the fetus.
- c. To contract during labor.
- d. To give nourishment to the fetus.

164. Which of the following hormones are the primary hormones produced by the ovaries?

- a. Estrogen and testosterone.
- b. Testosterone and oxytocin.
- c. Testosterone and progesterone.
- d. Estrogen and progesterone.

165. What are the primary functions of the hormones that the ovaries produce?

- a. Sexual behavior and maintenance of pregnancy.
- b. To give a deeper voice and more defined muscles.
- c. To maintain weight and pregnancy.
- d. To give secondary male characteristics and maintain weight gain.

166. Which of the following is not a function of the cervix?

- a. Connects the vagina to the uterus.
- b. Serves as a passageway for semen during copulation.
- c. Serves as a barrier for pathogens and prevents foreign material from entering the uterus.
- d. None of the above.

167. Which of the following is NOT a function of the uterus?
- a. Provides nourishment for the fetus.
 - b. The receptacle for the penis during copulation.
 - c. Contracts to expel the fetus during parturition.
 - d. Incubates the fetus during pregnancy.
168. Which of the following is NOT a function of the epididymis?
- a. Site of maturation for sperm.
 - b. Site of transportation for sperm.
 - c. Site of decomposition for sperm.
 - d. Site of storage for sperm.
169. What is cryptorchidism?
- a. Sterile female calf born twin to a male calf.
 - b. Condition in which one or both testicles remain in the body cavity.
 - c. Process by which sperm are produced by the male.
 - d. Causes destruction of the cotyledons of the uterus.
170. What is a freemartin?
- a. Sterile female calf born twin to a male calf.
 - b. Process by which ova are produced by the female.
 - c. Respiratory viral disease that causes infertility.
 - d. Condition in which one or both testicles remain the body cavity.
171. What does Brucellosis cause?
- a. Abortions typically in the second half of pregnancy.
 - b. A sterile female calf born twin to a male calf.
 - c. A decrease in the production of sperm in the male.
 - d. Respiratory viral disease that causes infertility.
172. What does IBR stand for?
- a. Infectious Born Respiration
 - b. Indefinitely Bad Respiration
 - c. Infectious Bovine Rhinotracheitis
 - d. Infectious Bovine Respiration
173. What is IBR?
- a. Sterile female calf born twin to a male calf.
 - b. Condition in which one or both testicles remain in the body cavity.
 - c. Causes destruction of the cotyledons of the uterus.
 - d. Viral disease of the respiratory tract that can cause abortion.
174. What is oogenesis?
- a. Process by which sperm are produced by the male.
 - b. Condition in which one or both testicles remain in the body cavity.
 - c. Process by which ova are produced by the female.
 - d. Causes destruction of the cotyledons of the uterus.
175. What is spermatogenesis?
- a. Process by which sperm are produced by the male.
 - b. Condition in which one or both testicles remain in the body cavity.
 - c. Process by which ova are produced by the female.
 - d. Causes destruction of the cotyledons of the uterus.

176. The term that means of, or relating to dogs:
- a. Feline
 - b. Bovine
 - c. Canine
 - d. Galline
177. The term that means of, or relating to cats:
- a. Feline
 - b. Bovine
 - c. Canine
 - d. Galline
178. The term that means of, or relating to cattle:
- a. Feline
 - b. Bovine
 - c. Canine
 - d. Galline
179. The term that means of, or relating to horses:
- a. Equine
 - b. Galline
 - c. Bovine
 - d. Ovine
180. The term that means of, or relating to swine:
- a. Equine
 - b. Canine
 - c. Galline
 - d. Porcine
181. The term that means of, or relating to sheep:
- a. Equine
 - b. Galline
 - c. Bovine
 - d. Ovine
182. The term that means of, or relating to poultry:
- a. Equine
 - b. Feline
 - c. Porcine
 - d. Galline
183. A sexually mature male of the bovine species:
- a. Heifer
 - b. Steer
 - c. Cow
 - d. Bull
184. A female that has produced a calf:
- a. Heifer
 - b. Steer
 - c. Cow
 - d. Bull

185. A female that has not produced a calf:
a. Heifer
b. Steer
c. Cow
d. Bull
186. A sexually mature male of the equine species:
a. Colt
b. Foal
c. Stud
d. Mare
187. A female of the equine species that is four years of age or older:
a. Colt
b. Foal
c. Stud
d. Mare
188. An immature male of the equine species:
a. Colt
b. Foal
c. Stallion
d. Mare
189. The act of giving birth in horses:
a. Farrowing
b. Foaling
c. Whelping
d. Laying
190. A mature female of the porcine species that has produced young:
a. Hen
b. Sow
c. Gilt
d. Ewe
191. An immature female of the porcine species:
a. Hen
b. Sow
c. Gilt
d. Ewe
192. A mature female of the galline species:
a. Hen
b. Sow
c. Gilt
d. Ewe
193. A newborn chicken:
a. Chick
b. Pullet
c. Cockerel
d. Broiler

194. A sexually mature male of the ovine species:
a. Rooster
b. Bull
c. Barrow
d. Ram
195. A sexually mature female of the ovine species:
a. Ewe
b. Gilt
c. Hen
d. Filly
196. All telephone calls should be answered by the _____ ring.
a. first
b. third
c. fifth
d. seventh
197. Cat litter pans and gardening are the most common sources for which protozoan?
a. Toxoplasma
b. Giardia
c. Coccidia
d. Ancyloplasma
198. Formalin is most commonly used for _____.
a. Disinfecting
b. Flea prevention
c. Copy machine toner
d. Tissue biopsy
199. For safety, two people are required to lift anything weighing more than _____ lb.
a. 10
b. 20
c. 30
d. 40
200. Which of the following is a zoonotic disease?
a. Ringworm
b. Cat Scratch Fever
c. Both A and B
d. None of the above
201. The five types of white blood cells are:
a. Eosinophil, basophil, neutrophil, lymphocyte, monocyte
b. Thrombocyte, monocyte, neutrophil, lymphocyte, eosinophil
c. Neutrophil, erythrophil, leukocyte, basophil, eosinophil
d. Neutrophil, basophil, eosinophil, granulocytes, acanthocyte
202. What parasite transmits Lyme disease?
a. *Dirofilaria immitis*
b. Heartworm
c. Lice
d. Tick

203. To remove a tick you should:
- Use a match to burn the tick off
 - Cut the tick off with a knife
 - Pour alcohol on the tick, then pull it off
 - Use tweezers to grasp the head and pull straight out
204. One disease that is transmitted by the tick is:
- Rocky Mountain Spotted Fever
 - Toxoplasmosis
 - Salmonella
 - Ringworm
205. The clinical signs of heartworm are:
- vomiting, deep cough, anemia
 - anemia, deep cough, irregular heart beat
 - deep cough, irregular heart beat, exercise intolerance
 - irregular heart beat, anemia, exercise intolerance
206. A veterinary assistant must inventory all supplies each month. She counts the following number of thermometers: 4, 12, 7, 23, and 9. What is the total number of thermometers?
- 45 thermometers
 - 50 thermometers
 - 55 thermometers
 - 60 thermometers
207. A veterinary assistant counts the exam gloves in each room and determines there are 338, 191, 87, 420, 206, and 76 gloves. What is the total number of gloves?
- 1118 gloves
 - 1218 gloves
 - 1318 gloves
 - 1418 gloves
208. A vet tech purchases a new uniform. She spends \$31 for the top, \$28 for the pants, \$56 for shoes, \$7 for socks, and \$4 for a name pin. What was her total cost?
- \$126
 - \$136
 - \$146
 - \$156
209. A veterinarian in a critical care unit determines that one calf was given the following intravenous (IV) solutions in a 24 hour period: 745 milliliters (mL) of 0.9% normal saline, 420 mL of lactated ringers, 1,250 mL of 5% dextrose, and 15 mL of an antibiotic solution. How many total milliliters of IV solution did the patient receive?
- 1430 mL
 - 2430 mL
 - 3430 mL
 - 4430 mL

210. A veterinary technician inventories the number of medication containers. She finds there are 1,137 safety-lock containers, 963 easy-open containers, 413 15mL bottles, 1,265 30mL bottles, and 258 ointment containers. What is the total number of medication containers?

- a. 3000 containers
- b. 4000 containers
- c. 4036 containers
- d. 1457 containers

211. A veterinary technician notes that a dog's leukocyte (white blood cell) count before surgery was 18,645. Two days after the surgery, the patient had a leukocyte count of 8,968. What is the difference in the leukocyte counts?

- a. 6977
- b. 9677
- c. 1845
- d. 9577

212. A veterinarian is paid \$53,291 per year. After a raise, her yearly salary increases to \$56,509. What was the amount of her raise?

- a. \$2192
- b. \$3901
- c. \$1450
- d. \$3218

213. A veterinary technician is calculating the bill for hospital care for a cat which received a kidney transplant. The bill for medical services and care was \$2,685. The owners paid \$1,389 when they picked up the cat. A few weeks later they paid another \$497. How much do they still owe?

- a. \$799
- b. \$899
- c. \$999
- d. \$1500

214. A cow weighed 1,743 pounds prior to calving. The calf weighed 97 pounds and the placenta and amniotic fluid weighed 189 pounds. How much did the cow weigh after calving?

- a. 1557 pounds
- b. 1457 pounds
- c. 1357 pounds
- d. 1257 pounds

215. A steer weighed 1,145 pounds before harvest. One half of the carcass with forequarters weighed 393 pounds and one half of the carcass with rear quarters weighed 341 pounds. How much of the steer could not be consumed?

- a. 408 pounds
- b. 409 pounds
- c. 410 pounds
- d. 411 pounds

216. A technician is using a microscope to examine a specimen. If the eyepiece on the microscope has a power of 15x (x means times; a power of 15x magnifies an object 15 times) and the objective has a power of 100x, what is the total number of times she is magnifying the specimen? **Hint:** to find total magnification on a microscope, multiply the power of the eyepiece times the power of the objective.

- a. 1500x
- b. 2000x
- c. 2500x
- d. 3000x

217. An animal shelter worker is preparing formula for orphaned puppies. There are 9 puppies and each needs 2 ounces of formula. How many ounces of formula must be prepared?

- a. 16 oz
- b. 18 oz
- c. 20 oz
- d. 22 oz

218. A secretary maintains the accounts and writes the paychecks for a veterinary facility. Eight veterinary technicians earn \$13 per hour. If everyone works 40 hours per week, what is the total amount of money needed for the payroll each week?

- a. \$3160
- b. \$4060
- c. \$4160
- d. \$5060

219. The lab receives a prescription order from the veterinarian. He wants the patient to take 40 milligrams (mg) of amoxicillin four times a day for 25 days. The lab has 20 mg amoxicillin tablets. How many tablets should the veterinary technician give to the client for the 25-day period?

- a. 150 tablets
- b. 200 tablets
- c. 250 tablets
- d. 300 tablets

220. A microbiologist is staining bacterial slides. He uses a bottle of Gram stain that contains 144 milliliters (mL) of solution. If each slide requires 18 mL of the solution, how many slides can he stain with one bottle of solution?

- a. 2 slides
- b. 4 slides
- c. 6 slides
- d. 8 slides

221. A zookeeper gives a pot-bellied pig 1200 milligrams (mg) of Streptomycin in a 24-hour period. How many mg does he give the pig per dose if he gives the medication every 6 hours (q6h)?

- a. 100 mg
- b. 200 mg
- c. 300 mg
- d. 400 mg

222. A veterinarian takes blood samples from cows for brucellosis testing. One morning he fills 16 vacutainers (vacuum tubes) with 10 cubic centimeters (cc) of blood, 31 with 9.5 cc of blood, 28 with 7 cc of blood, and 15 with 8.5 cc of blood. How many cc of blood did he obtain from all the cows?

- a. 778 cc
- b. 780 cc
- c. 782 cc
- d. 784 cc

223. A veterinary technician is counting leukocytes (white blood cells). She counts four areas on the hemocytometer counting chamber, adds the four numbers together and then multiplies by 50 to obtain the correct leukocyte count. If the counts are 23, 27, 28 and 34 what is the correct leukocyte count?

- a. 5600 leukocytes
- b. 5700 leukocytes
- c. 5800 leukocytes
- d. 5900 leukocytes

224. An animal health technician is stocking a cabinet with flea control products. He stocks three cases of spray containing 24 cans per case, 13 cases of shampoo with 12 bottles per case, 5 boxes of foam with 10 cans per case, and 6 cases of powder with 8 boxes per case. Three days later he calculates that 35 cans of spray, 18 bottles of shampoo, 5 cans of foam and 21 bottles of powder have been sold. How many total items of flea killing preparations are left in the cabinet?

- a. 245 preparations
- b. 247 preparations
- c. 249 preparations
- d. 251 preparations

225. A veterinary technician gives a dog $\frac{1}{2}$ ounces (oz) of cough medicine at 6 PM and $\frac{1}{4}$ oz of cough medicine at 10 PM. What is the total amount of cough medicine received?

- a. $\frac{1}{4}$ oz
- b. $\frac{1}{2}$ oz
- c. $\frac{3}{4}$ oz
- d. 1 oz

226. A veterinary technician is developing X-rays. He follows the time chart recommended for the film he is using. What is the total time required to complete the developing process?

Developing Process Time Required

- Developer 2 $\frac{1}{4}$ minutes - Rinse $\frac{3}{4}$ minute
- Fix solution 3 $\frac{1}{2}$ minutes - Final wash 19 minutes

- a. 25 minutes
- b. 25 $\frac{1}{2}$ minutes
- c. 24 $\frac{1}{4}$ minutes
- d. 25 $\frac{3}{4}$ minutes

227. A veterinary technician uses $\frac{1}{2}$ oz, $\frac{3}{4}$ oz, and $\frac{5}{8}$ oz of solution to perform three urinary analysis tests. How much total solution does she use?

- a. 1 oz
- b. $1\frac{1}{2}$ oz
- c. $1\frac{3}{4}$ oz
- d. $1\frac{7}{8}$ oz

228. A vet tech is in charge of the construction of a new X-ray development unit. She knows that to prevent radiation the walls must be at least $2\frac{5}{8}$ inches (") thick if gypsum sheet rock is used or $\frac{1}{16}$ " thick if sheets of lead are embedded in the wall to prevent the passage of radiation. What is the difference of thickness in the two walls?

- a. $2\frac{1}{2}$ inches
- b. $2\frac{9}{16}$ inches
- c. $2\frac{3}{4}$ inches
- d. 3 inches

229. A microbiologist notes that the average length of a bacterium is $\frac{1}{1000}$ micrometer (mcm). Viruses range in size from $\frac{1}{2500}$ to 1500 mcm. How much longer is a bacterium than the smallest virus in mcm?

- a. $\frac{3}{5000}$ mcm
- b. $\frac{4}{5000}$ mcm
- c. $\frac{3}{500}$ mcm
- d. $\frac{7}{5000}$ mcm

230. A veterinary pharmaceutical company technician uses a 480-milliliter (mL) flask of rabies vaccine solution to fill individual vials. If each vial holds $\frac{1}{30}$ of the volume of the flask, how many mL of vaccine are in each vial?

- a. 12 mL
- b. 14 mL
- c. 16 mL
- d. 18 mL

231. An animal that is comfortable with a halter on its head and that responds to the commands of the person who is leading it is said to be _____.

- a. halter responsive
- b. show ready
- c. halter broken
- d. domesticated

232. Identification tags are usually placed in the _____ of cattle.

- a. teeth
- b. nostrils
- c. hooves
- d. ears

233. Giving birth in sheep is known as _____.

- a. farrowing
- b. ramming
- c. lambing
- d. kidding

234. What is drenching?
- a. giving a liquid medication orally
 - b. milking a dairy goat too often
 - c. hosing down a production facility
 - d. washing a sheep thoroughly
235. Both sheep and goats have _____ hooves.
- a. cloven
 - b. two toe-nails
 - c. split
 - d. all of the above
236. Poultry rely on a _____, a strong muscular organ that may contain grit, to grind their food.
- a. gaggle
 - b. gizzard
 - c. gosling
 - d. gander
237. *In vivo* vaccination involves injecting the vaccine into the _____.
- a. newborn chick
 - b. hen's uterus
 - c. pullet
 - d. embryo in the egg
238. Which of the following is NOT a method of disposing of dead birds in a poultry production facility?
- a. incineration
 - b. burying
 - c. recycling
 - d. composting
239. Which of the following animals is NOT a cecal fermenter?
- a. Horse
 - b. Guinea Pig
 - c. Pig
 - d. Rabbit
240. Which of the following is NOT one of the nutrients that should be included in pet food?
- a. Proteins
 - b. Oils
 - c. Fats
 - d. Water
241. You are feeding your dog Woof-Woof Dog Food. It costs \$14.95 for a 35-pound bag, you are feeding your dog 3.5 cups of food per day, and each cup weighs 3.5 ounces. What is the cost per pound?
- a. \$2.34 per pound
 - b. \$0.23 per pound
 - c. \$0.43 per pound
 - d. \$4.98 per pound

242. The cardiovascular system is composed of:
- a. heart and lungs
 - b. lungs and trachea
 - c. heart and blood vessels
 - d. heart, lungs and kidneys
243. What type of connective tissue connects muscles to bones?
- a. tendon
 - b. ligament
 - c. cartilage
 - d. blood
244. Which of the following is the first of the five steps of the digestive process?
- a. Mechanical
 - b. Chemical
 - c. Peristalsis
 - d. Absorption
245. Which of the following are the “ABC’s” of cardiopulmonary resuscitation?
- a. Airway, Breathing, Compression
 - b. Always Breath Continuously
 - c. Airway, Breathing, Circulation
 - d. Airway, Bleeding, Compression
246. Which of the following is NOT a warning sign that your dog or cat may be inclined to bite?
- a. Assuming submissive posture
 - b. Crouching with tail between legs
 - c. Ears held back, tail wagging quickly
 - d. Snarling, with fur on the back raised
247. What is a method of prevention for anal sac swelling?
- a. let your dog scoot
 - b. have veterinarian check anal glands
 - c. use an enema on a weekly basis
 - d. let your dog lick their anal glands
248. With your veterinarian’s permission, what medication can you give your dog if they have an allergic reaction?
- a. Pepto-Bismol
 - b. Advil
 - c. Benadryl
 - d. Frontline
249. Lyme Disease is a disease caused by a spiral-shaped bacterium, *Borrelia burgdorferi*. Which of the following can become infected?
- a. Dogs & cats
 - b. Horses & cattle
 - c. Birds & wild animals
 - d. All the above

250. In the last few hours I have noticed that my dog has been drooling excessively, especially since she never really drools. What could cause this?

- a. oral ingestion of insecticides
- b. dental disease
- c. anxiety & nausea
- d. All the above

251. Dogs and humans are susceptible to a variety of water-borne parasites. How can dogs become infected?

- a. ingesting aquatic species
- b. swimming
- c. drinking pond water
- d. all the above

252. A dog that licks his feet, rubs his face, or scratches behind his elbows may be showing signs of:

- a. Allergy
- b. Fatigue
- c. Hunger
- d. Boredom

253. How long is a dog in estrus?

- a. between 4 – 21 days with a mean of 9 days.
- b. exactly 6 days.
- c. between 7 – 28 days with a mean of 11 days.
- d. exactly 15 days

254. Rascal, a 2 year old dog has a foul odor. What could be the cause?

- a. Any brownish material in his ears. He may have an ear infection.
- b. He has tartar on his teeth or very red gums. His teeth need attention.
- c. His skin is dry and has bumps.
- d. All the above

255. Chipped bones, bowed tendons and other soft tissue injuries can cause what condition in horses?

- a. broken bones
- b. lameness
- c. even gaits
- d. all the above

256. How long, on average, will a mature horse's hoof grow in a month?

- a. .25 -.38 inches
- b. .15-.25 inches
- c. .38-.5 inches
- d. none of the above

257. Which breed of dog is less likely to cause human allergies?

- a. Spaniels
- b. Chows
- c. Schnauzers
- d. Heelers

258. In horses, when a fixed object is grabbed with the incisor teeth and air is drawn in repetitively through the mouth, is what:

- a. boredom
- b. need of certain trace minerals
- c. cribbing
- d. all the above

259. This term refers to a collection of pus (dead white blood cells) that has accumulated in a cavity formed by the tissue due to an infection or other foreign material.

- a. Antigen
- b. Bruise
- c. Abscess
- d. Slab

260. A bacteria or virus that causes clinical disease:

- a. Founder
- b. Strangles
- c. Pathogen
- d. Antigen

261. The soft "v" shaped tissue in the center of the bottom of the horses hoof:

- a. Sole
- b. White line
- c. Wall
- d. Frog

262. When breathing stops:

- a. Apnea
- b. Tachypnea
- c. Dyspnea
- d. Detomidine

263. The study of disease causes:

- a. Pathology
- b. Etiology
- c. Anatomy
- d. Caudal

264. The only medical term for lying down is:

- a. Recumbent
- b. Adduction
- c. Flexion
- d. Abduction

265. The Occupational Safety and Health Act of ____ established the Occupational Safety and Health Administration in the Department of Labor.

- a. 1969
- b. 1970
- c. 1971
- d. 1972

266. Sheep have _____ chromosomes.
- 24
 - 34
 - 44
 - 54
267. Goats have _____ chromosomes.
- 50
 - 60
 - 64
 - 70
268. The normal pulse (bpm) for a pig is:
- 60 bpm
 - 65 bpm
 - 70 bpm
 - 75 bpm
269. A sheep has a temperature of 102.5°F. This is:
- Too low
 - Normal
 - Too high
270. _____ is essential for organ structure, nutrient transport and energy utilization.
- Calcium
 - Protein
 - Sulfur
 - Phosphorus
271. Grass tetany is a result of:
- Nitrogen overload
 - Nitrogen deficiency
 - Magnesium deficiency
 - Phosphorous deficiency
272. Anthrax is a _____ disease of livestock.
- Fungal
 - Parasitic
 - Bacterial
 - Zoonotic
273. Erythrocytes are microscopic cells also called:
- Platelets
 - White blood cells
 - Red blood cells
 - Plasma
274. An example of a fungus is:
- Pink Eye
 - Ringworm
 - Sarcoptes
 - Tuberculosis

275. What is the name of the set of guidelines to protect employees?
- a. Employee Code of Ethics
 - b. Employees Right to Know
 - c. Hazard Communication Standard
 - d. OSHA
276. All of the following are examples of hazards, except _____.
- a. Chemical
 - b. Mental
 - c. Physical
 - d. Zoonotic
277. All of the following are examples of safety equipment, except _____.
- a. Back brace
 - b. Lead apron
 - c. Lead gloves
 - d. Lead shoes
278. An MSDS must contain _____ sections.
- a. 7
 - b. 8
 - c. 9
 - d. 10
279. OSHA was created in _____.
- a. 1950
 - b. 1960
 - c. 1970
 - d. 1980
280. Which of the following is most important to schedule first when making appointments?
- a. Customer Preference
 - b. Annual Appointments
 - c. Emergencies
 - d. Heartworm Checks
281. Which of the following is a sign of someone using non-verbal communication to express joy?
- a. Smiling
 - b. Hand Shake
 - c. Frown
 - d. Crossed Arms
282. What time of the day does the doctor typically do surgeries?
- a. Early Morning
 - b. Late Afternoon
 - c. Evening
 - d. Lunch

283. Which of the following situations would be considered an emergency?
- a. Annual Check-Up
 - b. Runny Stool
 - c. Flea Prevention
 - d. Urinary Blockage
284. Which of the following is NOT included on a cage card?
- a. Pet's Name
 - b. Pet Owner's Name
 - c. Time of day they need to go outside
 - d. Procedure
285. A good rule to follow when restraining animals for veterinary care is:
- a. Apply the maximum amount of restraint possible to ensure the safety of all involved.
 - b. Apply the minimum effective amount of restraint that will keep the animal and personnel safe.
 - c. Always apply the same amount of restraint: that which is usually tolerated by a member of the species being handled.
 - d. Never use ropes when restraining animals.