

Ms. Wittie's Vet Science CDE Team

2015

Practice:

- Every Tuesday & Thursday, After School (4-5pm)
- MANDATORY Attendance of 1 Practice minimum **EACH** Week, **NO Exceptions**
- First Practice: Jan 22nd (Mandatory Attendance does not apply)

Team Format:

- There will only be 4 people on the team and one alternate.
- Each week a Practice test, exam or assignment will be given. At the end of each week, rankings will be posted. Top 5 individuals by March 5th, will make the team.

Requirements:

- Each member of the Team will be required to purchase Medical Scrubs, both top and bottom. Solid tops and Solid bottoms are required; the team will be allowed to choose the colors after March 5th. Scrubs **MUST** be purchased by March 24th.

Check List of Materials:

- ___ Rules & Regulations
- ___ Identification Breeds & Species List
- ___ Identification Instruments List
- ___ Identification Organs & Parasites List
- ___ Vet Science Example Scan Sheet
- ___ Vet Science Test Question Bank
- ___ Vet Science Test Question Bank - Key

YET TO COME:

Rubrics for the Practicums will be released at a later date. As soon as they are released, they will be distributed with instructions for the practicum.

VETERINARY SCIENCE CDE

3 or 4 Member Team

I. PURPOSE

To promote career and post-secondary readiness by providing opportunities to develop knowledge and demonstrate skills in the field of veterinary science.

II. EVENT FORMAT

A. Team make up

1. The event will be a team event consisting of three or four students. The top three score count toward the team total.
2. It is required that participants be in official FFA dress OR medical scrubs (the only logos permissible on shirts are school or organizational logos). All team members must be dressed alike. Team members must all have solid color matching pants and solid color matching tops, regardless of the color combination. Students will be allowed to correct the dress code problem as long as the start time of the event is not effected.
3. Time allowed to complete the various event components is contingent on the practicums being conducted. The event provider shall exercise discretion in determining time allowed.

III. Equipment/Materials

1. Contestant must provide his/her own transparent clipboard.
2. Contestant must bring his/her own pencil and scan sheet to the contest.
3. No notes, books, pictures, or other materials are permitted.
4. Contestant may bring a basic, non-programmable calculator.
5. Contestants may use a copy of the scan sheet to record their answers for review after the contest.
6. Blank paper will be provided at the contest site.
7. Section or group leaders will not return scan sheets after a student has turned them in.

IV. Classes/Practicums

A. Written Test (100 points)

The test will consist of 50 questions, each question worth two points. The questions will come from a file of 285 questions from the veterinary science CDE link located at www.texasffa.org □ events □ CDE.

B. Identification (150 points)

The identification portion will consist of:

1. Five Exotic animal breeds and 20 domestic animal breeds (two points each)
2. 25 Equipment/materials (two points each)
3. 25 Parasites and animal body parts (two points each)
 - a. The student will correctly position slides, set up a microscope to identify internal and external parasites. The student will also correctly identify internal organs from cats, dogs, swine, cattle, sheep, goats, or horses. Each identification will be worth two points. These will come from a list found on the Texas FFA CDE website on the Veterinary Science CDE link. (texasffa.org □ events □ CDE)Animal body part may be high quality pictures or real body parts.

C. Veterinary Science Skills Individual Practicum Rotation (100 points)

1. This practicum is designed to evaluate participant's knowledge of and ability to evaluate common laboratory, radiology and examination procedures performed in a

veterinarians' clinic. Some skills may require participants to complete posology calculations. A practicum may combine more than one skill which is listed for the designated contest year. In some cases, contestants may be provided a written scenario that they must assess to determine correct solutions. Students will prepare for a possibility of five veterinary skills described below. The providers will select two of these skills to evaluate using a standard rubric. The two skills may be performed separately or together. The practicum will alternate as noted:

- 2015 –
Calculating percent solutions for a medication
Filling a prescription using instruction from the veterinarian
Administering routine immunization to the most common small or large animals
Naming and locating common sites for venipuncture employed in all domestic animals

V. TOTAL TEAM SCORE

Written Exam.....	100 points
Identification.....	150 points
Skills practicum.....	100 points
TOTAL POINTS INDIVIDUAL	350 points
TEAM.....	1050 points

VI. TIEBREAKER

Team and Individual tiebreakers will be settled in the following order:

1. Team with the higher score in the identification section wins.
2. If still tied, the team with the higher score in the skills practicum Part 1 wins.
3. If still tied, the team with the higher score on the written exam wins.
4. If still tied, the team with the highest alternate score wins. Ties for individual awards shall be broken by substituting the word “individual” wherever the word “team” appears above.

VII. REFERENCES

The resources used to establish this contest are listed below. You may use these resources in your efforts to study for this contest.

- Veterinary Assistant handbook- First Edition Author: Floron C. Faries, Jr.
- Instructional Materials Service, Texas A&M University
- Cornell Veterinary Curriculum (Vet. Terminology, Clinical exams, Hospital Procedures, Parasitology, Laboratory Techniques, Animal Nutrition, posology, and Principles of Disease).
- Veterinary Instruments and Equipment-A Pocket Guide Author: Teresa F Sonsthagen, BS, LVT
- Elsevier Mosby ISBN-13: 978-0-323-03203-2
- Review Questions and Answers for Veterinary Technicians Author: Thomas P Colville, DVM
- Mosby ISBN-13 978-0-323-01926-2
- American Kennel Club Breed Website - www.akc.org/breeds/
- Cat Fanciers' Association Breed Website - www.cfainc.org/breeds.html
- Oklahoma State University-Animal Science Website

Texas Veterinary Science CDE Breed List

Cattle Breeds

100 Angus
 101 Ayrshire
 102 Beefmaster
 103 Belted Galloway
 104 Braford
 105 Brahman
 106 Black Brangus
 107 Braunvieh
 108 Brown Swiss
 109 Charolais
 110 Gelbvieh
 111 Guernsey
 112 Hereford
 113 Holstein
 114 Jersey
 115 Limousin
 116 Maine Anjou
 117 Polled Hereford
 118 Red Angus
 119 Red Brangus
 120 Santa Gertrudis
 121 Shorthorn
 122 Simmental
 123 Texas Longhorn

Horse Breeds

124 Andalusian
 125 Appaloosa
 126 Arabian
 127 Belgian
 128 Buckskin
 129 Clydesdale
 130 Dutch draft
 131 Dutch Warmblood
 132 Friesian
 133 Hackney
 134 Hanoverian
 135 Lipizzan
 136 Miniature Horse
 137 Mustang
 138 Paint Horse
 139 Palomino
 140 Paso Fina
 141 Percheron

142 Quarter Horse
 143 Shetland Pony
 144 Shire
 145 Tennessee Walking Horse
 146 Thoroughbred

Dog Breeds

147 Australian Cattle Dog
 148 Bassett Hound
 149 Beagle
 150 Bloodhound
 151 Border Collie
 152 Boxer
 153 Bulldog
 154 Chihuahua
 155 Chow Chow
 156 Cocker Spaniel
 157 Dachshund
 158 Dalmatian
 159 Doberman Pinscher
 160 English Cocker Spaniel
 161 Golden Retriever
 162 Great Dane
 163 Labrador Retriever
 164 Lhasa Apso
 165 Pomeranian
 166 Poodle
 167 Pug
 168 Rottweiler
 169 Shetland Sheepdog
 170 Shih Tzu
 171 Welsh Corgi
 172 Yorkshire terrier

Cat Breeds

173 Abyssinian
 174 American Curl
 175 Balinese
 176 Birman
 177 Burmese
 178 Color Point Shorthair
 179 Cornish Rex
 180 Devon Rex
 181 Domestic Longhair
 182 Domestic Shorthair

183 Egyptian Mau
 184 Exotic Shorthair
 185 Havana Brown
 186 Maine Coon
 187 Manx
 188 Persian
 189 Persian Himalayan
 190 Russian Blue
 191 Scottish Fold
 192 Selkirk Rex
 193 Siamese
 194 Somali

Goat/Sheep/Swine Breeds

195 Angora goat
 196 Boer goat
 197 Spanish goat
 198 Barbado sheep
 199 Columbia sheep
 200 Dorper sheep
 201 Dorset sheep
 202 Hampshire sheep
 203 Rambouillet sheep
 204 Southdown sheep
 205 Suffolk sheep
 206 American Landrace swine
 207 American Yorkshire swine
 208 Berkshire swine
 209 Chester White swine
 210 Cross/Blue Butt swine
 211 Duroc swine
 212 Hampshire swine
 213 Hereford swine
 214 Pietrain swine
 215 Poland China swine
 216 Red Wattle swine
 217 Spotted swine
 218 Tamworth swine
 219 Vietnamese Potbelly swine

EXOTICS

220 Angora rabbit
 221 Ball Python
 222 Burmese Python
 223 Californian rabbit
 224 Chinchilla
 225 Chinese Dwarf hamster
 226 Columbian Red-tail Boa
 227 Cockatiel
 228 Cockatoo
 229 Common Snapping Turtle
 230 Desert horned lizard
 231 English Lop rabbit
 232 Ferret
 233 Gerbil
 234 Green Tree Frog
 235 Guinea Pig
 236 Hedge Hog
 237 Honduran Milk Snake
 238 Iguana
 239 Long Hair Teddy-Bear
 Hamster
 240 Lovebird
 241 Mata Mata
 242 New Zealand Rabbit
 243 Parakeet
 244 Prairie Dog
 245 Red Ear Slider
 246 Savannah Monitor
 247 Scarlett Macaw parrot
 248 Southern Flying Squirrel
 249 Sugar Glider
 250 Yellow Canary

2014 Vet Tech Instrument List

001 Alligator forceps	038 Groove director	072 Pole syringe
002 All-in-one castrator, docker, and ear marker	039 Guillotine nail trimmer	073 Rectal prolapse ring
003 Ambu bag	040 Half circle taper point suture needle	074 Refractometer
004 Artificial Vagina	041 Half curved cutting edge suture needle	075 Reimer emasculator
005 Autoclave	042 Half curved tissue forceps	076 Restraint gloves
006 Automatic dose syringe	043 Halstead mosquito forceps	077 Rumen Magnet
007 Backhaus towel forceps	044 Hartman mosquito forceps	078 Scalpel handle
008 Balling Gun	045 Hemacytometer	079 Silver nitrate stick
009 Barnes Dehorner	046 Holzheimer retractor	080 Spay hook
010 Bone-plate bender	047 Hoof trimmer for sheep and goats	081 Sphygmomanometer
011 Brown-Adson tissue forceps	048 Horn gouge	082 Spring mouth speculum or gag
012 Bulb syringe	049 Identification tag applicator	083 Stethoscope
013 Burdizzo	050 Incisor, canine, and premolar extracting forceps	084 Stomach tube
014 Castroviejo needle holder with catch	051 Insemination pipette	085 Tarter scrapers single ended
015 Cornell teat curette	052 Intravenous drip set	086 Tattoo outfit manual
016 Dental rasp	053 Iris hook	087 Taylor percussion hammer
017 Dental tooth punch	054 Jacquette tartar scaler	088 Teat splitter
018 Depth probe and explorer	055 Kelly forceps	089 Three way stopcock
019 Differential cell counter	056 Killian vaginal speculum	090 Tom cat catheter
020 Dog snare or capture pole	057 Knowles bandage scissors	091 Transfer needle
021 Doppler ultrasonic blood flow monitor	058 Lens loop	092 Twitch-chain
022 Drench pump	059 Lister bandage scissors	093 Twitch-humane
023 Drench-matic dose syringe	060 Mayo scissors	094 Umbilical clamp
024 Ear notcher	061 Mayo-Hegar needle holder	095 Vetamatic dose syringe
025 ECG monitor combination	062 Needle-sterilizing rack	096 White emasculator
026 Elastrator	063 Olson-Hegar needle holder-scissors combination	097 White nail trimmer
027 Elizabethan collar	064 Operating scissors	098 Wood's light
028 Endoscope	065 Ophthalmoscope	099 X-ray measuring caliper
029 Endotracheal tube	066 Oral calf drencher	
030 Esophageal stethoscope	067 Otoscope	
031 Equine molar-extracting forceps	068 Pet piller	
032 Eye speculum	069 Pig tooth nipper	
033 Fecal loop	070 Pill splitter	
034 Feline restraint bag	071 Polansky canine vaginal speculum	
035 Female canine catheter		
036 Fetal extractor (calf puller)		
037 Forester sponger holding forceps		

2014 Parasite/Internal Organs

- 300 *Ancylostoma*-Hookworm
- 301 Anoplura (sucking)-Lice
- 302 *Argasidae*-soft ticks
- 303 *Ctenocephalides canis*-flea
- 304 *Ctenocephalides felis*-flea
- 305 *Demodex*-Mite
- 306 *Dipylidium caninum*-Tapeworm Dog and Cat
- 307 *Dirofilaria immitis*-Heartworm Adult
- 308 *Fasciolahepatica*-Liver fluke of cattle and sheep
- 309 *Gasterophilus hemorrhoidalis*-Bot Fly of the Horse
- 310 *Giardia* Cyst
- 311 *Giardia* Troph
- 312 Heartworm *Microfilaria*
- 313 *Isospora*-dog and cat protozoa
- 314 *Ixodidae*- hard tick
- 315 Mallophaga (chewing) – Lice
- 316 *Otodectes* - ear mite
- 317 *Sarcoptes*- mite
- 318 *Stephanurus dentatus* – kidney worm in swine
- 319 *Strongyloides westeri* – Intestinal Threadworms of the Horse
- 320 *Strongylus vulgaris* - Large Strongyle of the Horse
- 321 *Taenia pisiformis* - Tapeworm dog
- 322 *Toxascara canis* - Roundworm
- 323 *Trichuris vulpis*- Whipworm
- 324 Brain
- 325 Cecum
- 326 Cervix
- 327 Fallopian tubes
- 328 Gall bladder
- 329 Hairball/Furball
- 330 Hardware
- 331 Heart
- 332 Kidney
- 333 Liver
- 334 Lungs
- 335 Ovary
- 336 Spleen
- 337 Stomach system
- 338 Gall Stones
- 339 Testicle
- 340 Trachea
- 341 Uterus



HORTICULTURE
CDE# 105482

Team Name

Incorrect Marks Correct Mark



Team Name

Team Number	State	Last Name	First Name
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Place	Pacing Classes									Place	
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6	1432									1432	6
7	2134									2134	7
8	2143									2143	8
9	2314									2314	9
10	2341									2341	10
11	2413									2413	11
12	2431									2431	12
13	3124									3124	13
14	3142									3142	14
15	3214									3214	15
16	3241									3241	16
17	3412									3412	17
18	3421									3421	18
19	4123									4123	19
20	4132									4132	20
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22	4231									4231	22
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Exam		Exam 2/Team	
1	A B C D	26	A B C D
2	A B C D	27	A B C D
3	A B C D	28	A B C D
4	A B C D	29	A B C D
5	A B C D	30	A B C D
6	A B C D	31	A B C D
7	A B C D	32	A B C D
8	A B C D	33	A B C D
9	A B C D	34	A B C D
10	A B C D	35	A B C D
11	A B C D	36	A B C D
12	A B C D	37	A B C D
13	A B C D	38	A B C D
14	A B C D	39	A B C D
15	A B C D	40	A B C D
16	A B C D	41	A B C D
17	A B C D	42	A B C D
18	A B C D	43	A B C D
19	A B C D	44	A B C D
20	A B C D	45	A B C D
21	A B C D	46	A B C D
22	A B C D	47	A B C D
23	A B C D	48	A B C D
24	A B C D	49	A B C D
25	A B C D	50	A B C D

Team Activity		Practicums (Judges)					
Team	Ind.	1	2	3	4	5	6
01	00	00	00	00	00	00	00
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Assessment and Solution

1	A B C D	6	A B C D	11	A B C D	16	A B C D	21	A B C D
2	A B C D	7	A B C D	12	A B C D	17	A B C D	22	A B C D
3	A B C D	8	A B C D	13	A B C D	18	A B C D	23	A B C D
4	A B C D	9	A B C D	14	A B C D	19	A B C D	24	A B C D
5	A B C D	10	A B C D	15	A B C D	20	A B C D	25	A B C D

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

Identification

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

Veterinary Technology Question Bank

1. The four things that ONLY a veterinarian may do are:
 - 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. Use the following scenario to answer the next two questions. 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?
- EPA
 - DEA
 - OSHA
 - None of the above
17. Which zoonotic disease is fatal in humans?
- Corona
 - Rabies
 - Parvovirus
 - Scabies
18. Diseases that can be transmitted to humans are known as:
- Contagious
 - Benign
 - Malignant
 - Zoonotic
19. Which of the following diseases is not a disease that affects dogs?
- Rabies
 - Distemper
 - Black Leg
 - Hepatitis
20. Which of the following substances is not considered a bio-hazardous substance?
- Scalpel blade
 - Syringe
 - Microscope Slide
 - Needle
21. Which of the following bedding materials is most commonly used in the small animal clinic?
- Pine Shavings
 - Newspaper
 - Blankets and Towels
 - Straw
22. Which of the following needles has the smallest bore?
- 16 gauge
 - 20 gauge
 - 21 gauge
 - 25 gauge
23. Which of the following needles would most commonly be used for canine vaccinations?
- 16 gauge
 - 20 gauge
 - 21 gauge
 - 25 gauge
24. Which of the following acronyms is used when administering medication twice a day?
- TID
 - QID
 - 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: Ascriptin 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>, 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?
- 1.0 tablets
 - 1.5 tablets
 - 2.0 tablets
 - 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?
- 250
 - 500
 - 750
 - 1000
41. Translate the following into percents: 1:100
- .05%
 - .5%
 - 1%
 - 1.5%
42. 1000 mg = _____ g
- .001
 - .01
 - 1
 - 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?
- 2 mg
 - 2.2 mg
 - 22 mg
 - 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
- 30 capsules
 - 40 capsules
 - 50 capsules
 - 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?
- 5 tablets in the morning and 2 in the afternoon
 - 1 tablet in the morning and afternoon
 - .5 tablets in the morning and 1 in the afternoon
 - .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?
- 700 L
 - 700 ml
 - 300 L
 - 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 po for 3 days. How many mls would you give a dog that weights 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 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 mg does this dog receive for 3 weeks of treatment?

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

49. "Max" needs 30 mg. 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 in to 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. What 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 produce 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:

- 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, short wrinkled snout, and medium erect ears?

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

73. The _____ is characterized by a red with 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. What 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

75. 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.

76. Lauren is taking a patient history from Ms. Harper about her horse. Which is the most appropriate question for her to ask?

- a. "Is your horse drinking a lot of water and eating okay?"
- b. "How much water is it drinking and how much is it eating?"
- c. "Is your horse able to exercise daily?"
- d. "Is you horse drinking more water now than compared to a few months ago?"

77. A vet diagnosed Bill's goat 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'll 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 get 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. In reference to the previous questions, how many tablets will be dispensed for the 10 days (Prednisone will come in 30 mg tablets)?

- a. 10
- b. 20
- c. 90
- d. 110

97. Linda is going to perform a laboratory test. Where is it possible that she will be doing 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 also 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

Read the following paragraph. Then answer the questions below.

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.

113. 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. The puppies' infection could be best described as which type?

- a. Direct
- b. Indirect
- c. Transmammary
- d. Transplacental

115. If the rabbit was infected with hookworms what would be the term for this type of host?

- a. Paratenic
- b. Pest
- c. Atypical
- d. Infectious

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. If 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:

- a. understand the schedules that drugs are placed in and why.
- b. have an authorized person unlock the locked cabinet where the drugs are stored.
- c. ensure that the name and amount of drug used is recorded in the daily log.
- d. 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:

- a. dispose of waste in a proper manner
- b. isolate infected animals
- c. wash hands often
- d. 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?

- a. Needles
- b. Materials soaked with bodily fluids
- c. Bandage material
- d. None of the above

132. Fran is doing research on pathogens. A pathogen is:

- a. A microorganism that produces disease.
- b. Disease that can be transmitted between animals and humans.
- c. Precautions taken to prevent contamination of a surgical wound.
- d. Refers to the back.

133. A veterinarian has diagnosed an animal with typhus, which is a zoonotic disease. Zoonotic means:

- a. Disease that can be transmitted between animals and humans.
- b. Precautions taken to prevent contamination of a surgical wound.
- c. Refers to the back.
- d. A device that measures the amount of radiation someone is exposed to when performing radiology.

134. Proper PPE sometimes includes a dosimeter. This is:

- a. A device that measures the amount of radiation someone is exposed to when performing radiology.
- b. Lead gloves
- c. A device that keeps animals from biting you.
- d. Something that covers your face while working with animals.

135. Aseptic technique is

- a. Precautions taken to prevent contamination of a surgical wound.
- b. Cleaning surfaces with bleach
- c. Swabbing for a bacteria culture
- d. 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 the 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. quitor

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 the 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?

- 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. Is 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 a cryptorchid?

- 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 “Bang’s” disease 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, erythrocyte, 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:

- a. Use a match to burn the tick off
- b. Cut the tick off with a knife
- c. Pour alcohol on the tick, then pull it off
- d. Use tweezers to grasp the head and pull straight out

204. One disease that is transmitted by the tick is:

- a. Rocky Mountain Spotted Fever
- b. Toxoplasmosis
- c. Salmonella
- d. Ringworm

205. The clinical signs of heartworm are:

- a. vomiting, deep cough, anemia
- b. anemia, deep cough, irregular heart beat
- c. deep cough, irregular heart beat, exercise intolerance
- d. 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?

- a. 45 thermometers
- b. 50 thermometers
- c. 55 thermometers
- d. 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?

- a. 1118 gloves
- b. 1218 gloves
- c. 1318 gloves
- d. 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?

- a. \$126
- b. \$136
- c. \$146
- d. \$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?

- a. 1430 mL
- b. 2430 mL
- c. 3430 mL
- d. 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 kidney transplant cat. 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 fore quarters 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 vet techs 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 vet tech 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 vet tech 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 vet tech 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. 23 minutes
- b. $23\frac{1}{4}$ minutes
- c. $23\frac{1}{2}$ minutes
- d. $23\frac{3}{4}$ minutes

227. A vet tech 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

You are feeding your dog Woof-Woof Dog Food. It costs \$14.95 for a 35-pound bag, You are feeding a very large dog 3.5 cups of food per day, and each cup weighs 3.5 ounces.

241. Using the above scenario, what is the cost per pound?

- a. \$2.34 per pound
- b. \$0.23 per pound
- c. \$0.50 per pound

d. \$4.98 per pound

242. Using the above scenario, how many ounces are there in a bag?

- a. 560 ounces
- b. 122.5 ounces
- c. 480 ounces
- d. 350 ounces

243. Using the above scenario, what is the cost per year?

- a. \$97.18 per year
- b. \$4,471.25 per year
- c. \$179.40 per year
- d. \$134.14 per year

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 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 breeds of dogs are 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 horse's 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.

- a. 24
- b. 34
- c. 44
- d. 54

267. Goats have _____ chromosomes.

- a. 50
- b. 60
- c. 64
- d. 70

268. The normal pulse (bpm) for a pig is

- a. 60 bpm
- b. 65 bpm
- c. 70 bpm
- d. 75 bpm

269. A sheep has a temperature of 102.5°F. This is:

- a. Too low
- b. Normal
- c. Too high

270. _____ is essential for organ structure, nutrient transport and energy utilization.

- a. Calcium
- b. Protein
- c. Sulfur
- d. Phosphorus

271. Grass tetany is a result of

- a. Nitrogen overload
- b. Nitrogen deficiency
- c. Magnesium deficiency
- d. Phosphorous deficiency

272. Anthrax is a _____ disease of livestock.

- a. Fungal
- b. Parasitic
- c. Bacterial
- d. Zoonotic

273. Erythrocytes are microscopic cells also called

- a. Platelets
- b. White blood cells
- c. Red blood cells
- d. Plasma

274. An example of a fungus is

- a. Pink Eye
- b. Ringworm
- c. Sarcoptes
- d. 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.

Veterinary Technology Question Bank - Key

1. The four things that ONLY a veterinarian may do are:

- 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. Use the following scenario to answer the next two questions. 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 diseases 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: Ascriptin 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>, 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 po for 3 days.

How many mls would you give a dog that weights 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 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 mg does this dog receive for 3 weeks of treatment?

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

49. "Max" needs 30 mg. 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 in to 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. What 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 produce 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:

- 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, short wrinkled snout, and medium erect ears?

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

73. The _____ is characterized by a red with 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. What 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

75. 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.

76. Lauren is taking a patient history from Ms. Harper about her horse. Which is the most appropriate question for her to ask?

- a. "Is your horse drinking a lot of water and eating okay?"
- b. "How much water is it drinking and how much is it eating?"**
- c. "Is your horse able to exercise daily?"
- d. "Is your horse drinking more water now than compared to a few months ago?"

77. A vet diagnosed Bill's goat 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'll 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 get 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. In reference to the previous questions, how many tablets will be dispensed for the 10 days (Prednisone will come in 30 mg tablets)?

- a. 10**
- b. 20
- c. 90
- d. 110

97. Linda is going to perform a laboratory test. Where is it possible that she will be doing 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 also 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

Read the following paragraph. Then answer the questions below.

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.

113. 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. The puppies' infection could be best described as which type?

- a. Direct
- b. Indirect
- c. Transmammary**
- d. Transplacental

115. If the rabbit was infected with hookworms what would be the term for this type of host?

- a. Paratenic**
- b. Pest
- c. Atypical
- d. Infectious

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. If 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:

- a. understand the schedules that drugs are placed in and why.
- b. have an authorized person unlock the locked cabinet where the drugs are stored.
- c. ensure that the name and amount of drug used is recorded in the daily log.
- d. 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:

- a. dispose of waste in a proper manner
- b. isolate infected animals
- c. wash hands often
- d. 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?

- a. Needles

- b. Materials soaked with bodily fluids
- c. Bandage material
- d. None of the above**

132. Fran is doing research on pathogens. A pathogen is:

a. A microorganism that produces disease.

- b. Disease that can be transmitted between animals and humans.
- c. Precautions taken to prevent contamination of a surgical wound.
- d. Refers to the back.

133. A veterinarian has diagnosed an animal with typhus, which is a zoonotic disease. Zoonotic means:

a. Disease that can be transmitted between animals and humans.

- b. Precautions taken to prevent contamination of a surgical wound.
- c. Refers to the back.
- d. A device that measures the amount of radiation someone is exposed to when performing radiology.

134. Proper PPE sometimes includes a dosimeter. This is:

a. A device that measures the amount of radiation someone is exposed to when performing radiology.

- b. Lead gloves
- c. A device that keeps animals from biting you.
- d. Something that covers your face while working with animals.

135. Aseptic technique is

a. Precautions taken to prevent contamination of a surgical wound.

- b. Cleaning surfaces with bleach
- c. Swabbing for a bacteria culture
- d. A chemical agent that kills or prevents to 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. quitor

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 the 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?

- 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. Is 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 a cryptorchid?

- 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 "Bang's" disease 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:

a. Use a match to burn the tick off

b. Cut the tick off with a knife

c. Pour alcohol on the tick, then pull it off

d. Use tweezers to grasp the head and pull straight out

204. One disease that is transmitted by the tick is:

a. Rocky Mountain Spotted Fever

- b. Toxoplasmosis
- c. Salmonella
- d. Ringworm

205. The clinical signs of heartworm are:

- a. vomiting, deep cough, anemia
- b. anemia, deep cough, irregular heart beat
- c. deep cough, irregular heart beat, exercise intolerance**
- d. 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?

- a. 45 thermometers
- b. 50 thermometers
- c. 55 thermometers**
- d. 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?

- a. 1118 gloves
- b. 1218 gloves
- c. 1318 gloves**
- d. 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?

- a. \$126**
- b. \$136
- c. \$146
- d. \$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?

- a. 1430 mL
- b. 2430 mL**
- c. 3430 mL
- d. 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 kidney transplant cat. 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 fore quarters 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 vet techs 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 vet tech 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 vet tech 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 vet tech 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. 23 minutes

b. 23 $\frac{1}{4}$ minutes

c. 23 $\frac{1}{2}$ minutes

d. 23 $\frac{3}{4}$ minutes

227. A vet tech 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 1500mcm. 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

You are feeding your dog Woof-Woof Dog Food. It costs \$14.95 for a 35-pound bag, You are feeding a very large dog 3.5 cups of food per day, and each cup weighs 3.5 ounces.

241. Using the above scenario, what is the cost per pound?

- a. \$2.34 per pound
- b. \$0.23 per pound
- c. \$0.50 per pound**
- d. \$4.98 per pound

242. Using the above scenario, how many ounces are there in a bag?

- a. 560 ounces**
- b. 122.5 ounces
- c. 480 ounces
- d. 350 ounces

243. Using the above scenario, what is the cost per year?

- a. \$97.18 per year
- b. \$4,471.25 per year
- c. \$179.40 per year
- d. \$134.14 per year**

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 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 breeds of dogs are 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 horse's 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.

- a. 24
- b. 34
- c. 44
- d. 54**

267. Goats have _____ chromosomes.

- a. 50
- b. 60**
- c. 64
- d. 70

268. The normal pulse (bpm) for a pig is

- a. 60 bpm
- b. 65 bpm
- c. 70 bpm**
- d. 75 bpm

269. A sheep has a temperature of 102.5°F. This is:

- a. Too low
- b. Normal**
- c. Too high

270. _____ is essential for organ structure, nutrient transport and energy utilization.

- a. Calcium
- b. Protein
- c. Sulfur

d. Phosphorus

271. Grass tetany is a result of

- a. Nitrogen overload
- b. Nitrogen deficiency

c. Magnesium deficiency

d. Phosphorous deficiency

272. Anthrax is a _____ disease of livestock.

- a. Fungal
- b. Parasitic

c. Bacterial

d. Zoonotic

273. Erythrocytes are microscopic cells also called

- a. Platelets
- b. White blood cells

c. Red blood cells

d. Plasma

274. An example of a fungus is

a. Pink Eye

b. Ringworm

c. Sarcoptes

d. 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.