A working knowledge of common medications is an important aspect of responsible horse ownership. Match the following medications with the most appropriate item(s).

A. nonsteroidal anti-inflammatory  D. anthelmintic  
B. antibiotic  E. antacid  
C. anticoccidial

51. deworming agent  
52. phenylbutazone  
53. penicillin  
54. eradicates protozoa, including those that cause EPM  
55. moxidectin  
56. protects mucous membrane from gastric acid  
57. gentamicin  
58. aspirin  
59. ivermectin  
60. erythromycin

Other things found in the medicine chest are used topically. Match the following topical preparations with the most appropriate item(s).

A. liniment  C. ichthammol  
B. poultice  D. dimethylsulfoxide (DMSO)

61. anti-inflammatory analgesic vehicle to enhance absorption of other drugs  
62. a reddish brown to brownish black viscous fluid with a strong smell; used as an anti-infective, particularly in hooves  
63. a liquid or semiliquid used as a counterirritant  
64. soft, often medicated paste spread on a cloth and draped over a wound

Still others don’t fall neatly into either of these two categories, though they are still important. Match the following substances with the most appropriate item(s).

A. corticosteroid  D. diuretic  
B. probiotic  E. sedative  
C. electrolytes

65. furosemide  
66. increases urine production and decreases amount of fluid within organs and tissues  
67. boosts the microflora population in the cecum, thus increasing the digestibility of certain nutrients  
68. acepromazine  
69. decreases inflammatory and immune responses  
70. sodium, chloride, potassium, magnesium
A. LH  
B. FSH  
C. OvH

71. stimulates regression of the corpus luteum  
72. activates follicular growth  
73. produced by fetal-tissue-origin endometrial cups during early pregnancy  
74. combined with FSH, may be responsible for final maturation and ovulation of follicle

75. Mares are considered seasonally polyestrus, meaning they have generally predictable periods of sexual receptivity called ________ during ________ and _________. Therefore, they are often called ________ breeders.

A. anestrus, spring, summer, short-day  
B. anestrus, summer, fall, long-day  
C. estrus, spring, summer, long-day  
D. diestrus, fall, winter, short-day

76. Some mares don’t show visible signs of estrus and are said to have ________. The number of mares that do not show signs of estrus is about ________.

A. Caslick’s, 25%  
B. pneumovagina, 30%  
C. silent heat, <10%  
D. pseudoestrus, 5%

77. Which of the following is not a sign of estrus?

A. frequent urination  
B. squatting  
C. winking  
D. lying down often

78. The estrous cycle of a normal mare is ________ days with ________ days of estrus. Ovulation occurs during the last ________ days of estrus.

A. 21-23, 6-7, 1-2  
B. 28-30, 5-7, 3-4  
C. 18-20, 8-10, 3-4  
D. 22, 8-10, 5-6

79. fertilization of the egg occurs here  
80. acts as barrier between the uterus and the vagina  
81. unfertilized egg  
82. fertilized egg implants here  
83. paired branchings of the uterus leading from the body of the uterus to the uterine tubes
84. Ultrasound examination of the mare's uterus to determine pregnancy is usually done at _______ days after breeding.
   A. 4 to 5
   B. 7 to 8
   C. 14 to 15
   D. 21 to 23

85. In mares, twins are almost always caused by the ovulation and fertilization of more than one egg, not division of an embryo.
   A. true  B. false

86. At one point should mares begin to be fed slightly more energy to support the growth of the fetus?
   A. three months
   B. five months
   C. seven months
   D. eight months
   E. ten months

87. The antibody-rich milk released first by a nursing mare is called ____________.
   A. wax
   B. colostrum
   C. clostridium
   D. chorionallantois
   E. amnion

88. A "red bag" refers to ____________.
   A. presence of the unruptured chorionallantois at delivery
   B. a hot, inflamed udder
   C. a mare with mastitis
   D. a dummy foal
   E. B and C

89. Inflammation of the uterus is termed ____________.
   A. uveitis
   B. urticaria
   C. endometritis
   D. orchitis
   E. synovitis
Match the reproductive problems of the stallion with their respective definitions.

A. hemospermia
B. suummer sores
C. urospermia
D. urethritis
E. posthitis

90. inflammation of the membranous tube that transports urine out of the body
91. habronemiasis
92. urination during ejaculation
93. blood in the semen

Match the following genetics terms with the most appropriate item.

A. genes
B. DNA
C. chromosomes
D. karyotype
E. gametes

94. the reproductive cells—the eggs and the sperm
95. arrangement of paired chromosomes
96. individual units of inheritance
97. large and complex molecules of DNA that occur in every body cell
98. the genetic material of living cellular organisms

99. How many pairs of chromosomes are present in equine body cells?
   A. 16
   B. 32
   C. 64
   D. 128

100. Gametes of the horse contain ________ chromosomes.
    A. 16
    B. 32
    C. 64
    D. 128
2005 North Carolina State 4-H Hippology Contest
Senior
Written Exam

Name: ____________________________ Contestant Number: _____ County: __________________

A. merychippus                  D. equus
B. hyracotherium                E. mesohippus
C. pliohippus

1. approximately the size of a collie dog with longer legs and a straighter back than its ancestors
2. returned to North America approximately 500 years ago by Spanish conquistadors
3. the first one-toed horse that lived 12 million years ago
4. previously known as eohippus
5. possessed three toes on each foot, but the middle one was larger than the others and the only one to touch the ground

When humans began domesticating horses in the Near East, three major lines were identified. Find the three types and match them with the proper descriptions.

A. Turkmene                D. Asil
B. Barb                  E. Orloff
C. Arabian

6. a coarse but speedy animal
7. a swift horse with a high tailset
8. a tall racing type

One of the quickest ways to differentiate between horses is by color. A working knowledge of colors is essential among horsemen. Match the color or descriptions to the best mate.

A. liver                  D. palomino
B. cremello               E. roan
C. buckskin

9. gold or tan with a white or near-white mane and tail
10. a sprinkling of white hairs within a basic coat color
11. the darkest shade of chestnut
12. tannish body with black points
13. pink skin, blue eyes, near-white hair coat

A. grulla                D. dun
B. overo                 E. bay
C. gray

14. white usually does not cross the topline between the ears and the tail
15. uniform slate-colored body with black dun points
16. dark points (not necessarily black), dorsal stripe, striping across withers and on forearms and gaskins (upper legs)
17. reddish brown body color with black points
18. progressive silvering of hair
Many modern breeds trace their ancestry to horses that are no longer in existence or are only in limited existence. Match the lesser known horses with the proper descriptions.

A. Galloway  
B. Narrangansett Pacer  
C. Schweiken  
D. Tref  
E. Palouse

19. Spanish barbs that escaped from the ill-fated Spanish Armada when it was driven ashore in England  
20. an easy-gaited horse found mostly in Rhode Island and Virginia  
21. a native heavy breed used in the Middle Ages  
22. a horse of unknown heritage, a Bedouin description  
23. great war mounts with definitive coloring

Using the same letters above, choose the breed with which the respective horses influenced.

24. American Saddlebred  
25. Arabian  
26. Quarter Horse  
27. Trakehner  
28. Appaloosa

29. The Pinto is strictly a color breed.
   A. true  
   B. false

Mules have a place in the study of equine science. Match the mule-related term to its correct definition.

A. jack  
B. molly  
C. hinny  
D. jennet  
E. john

30. female donkey  
31. male donkey  
32. male offspring of a male donkey and a mare  
33. result of breeding a stallion to a female donkey  
34. female offspring of a male donkey and a mare

35. The ____________ is a two-beat diagonal gait, and the ____________ is a two-beat lateral gait. The ____________ is the intermediate gait of the Tennessee Walking Horse; it is a _______-beat gait.
   A. pace, trot, rack, four  
   B. trot, pace, rack, two  
   C. pace, rack, running walk, four  
   D. trot, pace, running walk, four  
   E. fino, largo, running walk, two
36. The canter is a ______-beat gait, and the gallop is a ______-beat gait.
   A. four, four C. four, three
   B. three, three D. three, four

37-41. Arrange the following permanent teeth in the order of eruption based on age. The earliest teeth to appear would be A, the next would be B, etc.
   A. first incisor D. second molar
   B. first molar E. fourth premolar
   C. second incisor

Horses often engage in stable vices. Listed below are some pieces of equipment or items that keep horses from performing these behaviors. Match the piece of equipment with the behavior it curbs or eliminates.
   A. leg chains D. mirrors
   B. cradle E. hot chili pepper powder
   C. hobbling

42. self-mutilation
43. pawing
44. weaving
45. tail chewing
46. kicking

47. Which of the following draft breeds would most likely be mistaken for a Clydesdale?
   A. Percheron D. Friesian
   B. Suffolk E. Ardennais
   C. Shire

48. The Selle Francais originated in ________, and the Gelderlander comes from the Gelder region of ________. The Oldenberg is the tallest and heaviest of the warmbloods from ________.
   A. France, the Netherlands, Germany
   B. Belgium, Germany, Holland
   C. France, Russia, Spain
   D. Belgium, Sweden, Germany

49. A Przewalski's horse is typically ________ hands and can best be described as ________.
   A. 10-11, buckskin
   B. 12-13, bay
   C. 12-13, yellow dun
   D. 14-15, palomino
   E. 15-16, grulla
50. The breed of horse most closely associated with the Spanish Riding School of Vienna is the _________.

A. Andalusian
B. Lusitano
C. Lipizzaner
D. Crillo
E. Cleveland Bay