

2024 Ag Challenge of Champions Written Test

Multiple Choice: (On the back of the scan sheet, bubble in the correct answer in the “Written Exam A” section of the scan sheet)

Agricultural/Livestock Industry

1. Which nutrient has the highest energy value?
 - a. carbohydrates
 - b. fats**
 - c. fiber
 - d. proteins

2. Which gland in the male produces the sperm cells?
 - a. epididymis
 - b. testicles**
 - c. urethra
 - d. vas deferens

3. The release of the egg from the ovary is called?
 - a. fertilization
 - b. ovulation**
 - c. parturition
 - d. reproduction

4. Which of the following wholesale cuts of beef are of the highest-value?
 - a. brisket
 - b. chuck
 - c. plate
 - d. rib**

5. The science in livestock production that studies the way in which traits of parents are passed on to the offspring is:
 - a. genetics**
 - b. heterosis
 - c. hybrid vigor
 - d. meiosis

6. The first successful cloning of a vertebrate organism from mature body cells occurred in 1996 with which species?
- a. cow
 - b. goat
 - c. pig
 - d. **sheep**
7. Adapting the behavior of animals to fit the need of humans is called?
- a. breeding
 - b. culling
 - c. **domestication**
 - d. training
8. The physical appearance of an animal is referred to as a:
- a. codominance
 - b. dominance
 - c. genotype
 - d. **phenotype**
9. Which hormone is responsible for the masculine appearance in animals?
- a. estrogen
 - b. masterone
 - c. progesterone
 - d. **testosterone**
10. The largest compartment of the ruminant stomach for a mature grazing cow is called the:
- a. abomasum
 - b. omasum
 - c. reticulum
 - d. **rumen**

Farm Equipment

11. What type of farm equipment is used to harvest grain?
- a. chopper / forage harvester
 - b. **combine**
 - c. sprayer
 - d. tractor

12. What is the term used by farmers that refers to the delivery of precious water to thirsty seeds and crops?
- a. bucket brigades
 - b. irrigation**
 - c. liquification
 - d. wetting
13. The slow-moving vehicle (SMV) emblem identifies farm machinery that normally travels slower than:
- a. 25 mph**
 - b. 30 mph
 - c. 35 mph
 - d. the posted speed
14. Most modern tractors also provide what type of power via hoses?
- a. air
 - b. hydraulic**
 - c. solar
 - d. all of the above
15. What is an agricultural machine used to harvest cotton?
- a. cotton huller
 - b. cotton picker**
 - c. cotton puller
 - d. stone picker
16. A _____ is used to harvest forage crops such as grass and/or alfalfa.
- a. baler**
 - b. combine
 - c. tractor
 - d. truck
17. Which agricultural machine causes the greatest number of serious injuries to youth?
- a. combines
 - b. corn pickers
 - c. hay balers
 - d. tractors**

18. Where is the power take-off (PTO) shaft typically located on a tractor?
- a. along the side of the tractor
 - b. at the front of the tractor
 - c. at the rear of the tractor**
 - d. in the cab of the tractor
19. When driving tractors and equipment on roads, what should you do to ensure your safety?
- a. display the slow-moving vehicle sign
 - b. drive with the rollover protection structure down so you can jump away in the event of a crash
 - c. use escort vehicles
 - d. both a and c**
20. What type of engines do most modern farm tractors usually have?
- a. diesel**
 - b. electric
 - c. gas
 - d. steam

Farm Management

21. A group of healthy pigs weighed 20 pounds each at weaning. They each gained 36 pounds while spending 4 weeks in the nursery. What did each pig weigh when coming out of the nursery?
- a. 12 pounds
 - b. 24 pounds
 - c. 40 pounds
 - d. 56 pounds**
22. A Hereford crossbred heifer is 14 months old. Farmer Joe wants to have a calf at 24 months of age. It takes 9 months for a baby calf to be born. How long does Farmer Joe have to wait until he can turn this heifer with the bull?
- a. 1 month**
 - b. 2 months
 - c. 5 months
 - d. 10 months

23. A herd of dairy cows spend 6 hours a day grazing. There are 3 Jersey and 3 Holstein cows grazing in the pasture. How much time do the cows in the field spend grazing each week?

- a. 6 hours
- b. 12 hours
- c. 24 hours
- d. **42 hours**

24. Parasite control is very important when raising any livestock and especially goats. There are 15 head of goats together in a pen. All of the goats together received 90 cc of the parasite control medication. How many cc's did each goat receive?

- a. 5 cc
- b. **6 cc**
- c. 9 cc
- d. 15 cc

25. A pen of ewe lambs is growing fast. One ewe lamb weighed 54 pounds at weaning. She has gained 33 pounds since weaning. How much does this ewe lamb weigh now?

- a. **87 pounds**
- b. 101 pounds
- c. 122 pounds
- d. 142 pounds

26. A nursery room will usually hold 160 pigs. This time there were only 154 barrows (males) and gilts (females) placed in the pen. The 87 barrows will grow a little faster than the gilts. How many gilts are in the nursery?

- a. 66 gilts
- b. **67 gilts**
- c. 73 gilts
- d. 77 gilts

27. A steer produced 24 pounds of ribeye. We cut the ribeye into 8-ounce steaks, which totaled 48 steaks. These steaks are worth \$7 a pound. What is this steer's ribeye steaks worth?

- a. \$101
- b. \$124
- c. \$146
- d. **\$168**

28. A nice set of dairy heifers are grazing in a 12-acre field that has been divided into 4 pastures with electric fence. This is referred to as rotational grazing when the cattle are moved every few days allowing other lots to grow. How many acres are in each pasture?
- a. **3 acres**
 - b. 4 acres
 - c. 6 acres
 - d. 12 acres
29. A pen of goats has 3 kids that average 52 pounds each. They will be sold in a month weighing an average of 67 pounds each. Market price is \$1.10 a pound today, but is expected to drop to 92 cents a pound in a month. What is each goat worth today?
- a. \$54.70
 - b. \$55.25
 - c. **\$57.20**
 - d. \$171.60
30. A pen of 35 sheep includes 8 rams (males) and 27 ewes (females). They eat a total of 385 square bales of hay in the winter. How many bales of hay does each sheep average eating during the winter?
- a. 8 bales
 - b. **11 bales**
 - c. 27 bales
 - d. 35 bales

General Agriculture

31. The two largest trading partners of U.S. exports are:
- a. **Canada and Mexico**
 - b. China and Canada
 - c. China and Mexico
 - d. China and South Korea
32. Which career is most related to agriculture?
- a. actor
 - b. bank teller
 - c. librarian
 - d. **soil scientist**

33. Which fabric contains a farm product?

- a. acrylic
- b. cotton**
- c. nylon
- d. polyester

34. The largest segment of U.S. agriculture is the _____ industry.

- a. beef cattle**
- b. dairy cattle
- c. soybean
- d. wheat

35. A beef/dairy cow has a _____-compartment stomach that enables it to digest and convert all types of vegetation into energy.

- a. 1
- b. 2
- c. 3
- d. 4**

36. Which of the following farm crop(s) is/are used in cereals?

- a. corn
- b. oats
- c. rice
- d. wheat
- e. all of the above**

37. Milk is an important source of which nutrient?

- a. calcium**
- b. carbohydrates
- c. iron
- d. vitamin A
- e. vitamin C

38. An acre of land is roughly the size of a:

- a. basketball court
- b. city block
- c. football field**
- d. swimming pool

39. Which of the following has allowed farmers to increase production over the past 100 years?

- a. computers
- b. farm machinery such as tractors
- c. larger farms
- d. pesticides
- e. all of the above**

40. Erosion of the soil is:

- a. controlled by allowing cattle to graze the land in unlimited numbers
- b. controlled by using lots of fertilizer
- c. soil which crumbles easily
- d. the wearing away of the land**
- e. none of the above