



2024 Cattlemen's Quiz - Senior Division

You have 60 minutes to complete this quiz. Questions 31 through 35 are tiebreaker questions. Further ties will be broken by order of finish.

For each question, choose the best answer.

1. Which of the following are simply inherited and can often be tested via DNA?
 - a. Highly heritable traits
 - b. Lowly heritable traits
 - c. Quantitative traits
 - d. Qualitative traits

2. Pulmonary arterial pressure testing is highly important to cattle producers in:
 - a. feedlot settings
 - b. hot climates
 - c. wet environments
 - d. high altitudes

3. Which stomach of the ruminant produces hydrochloric acid, digestive enzymes, and prepares proteins for absorption in the intestines?
 - a. Abomasum
 - b. Omasum
 - c. Rumen
 - d. Reticulum

4. A three ounce serving of beef provides ___ grams of protein.
 - a. 10
 - b. 15
 - c. 25
 - d. 50

5. What length needle is recommended for subcutaneous injections?
 - a. 3/4"
 - b. 1 1/2"
 - c. 2"
 - d. 3"

6. Which of the following is not a breed of Bos Taurus cattle?
 - a. Simmental
 - b. Hereford
 - c. Nelore
 - d. Corriente

7. The primary purpose of _____ is to produce progesterone.
- Follicle Stimulating Hormone
 - the corpus luteum (CL)
 - ovulation
 - Lutalyse®
8. Your veterinarian performs a Breeding Soundness Exam (BSE) on your group of yearling sale bulls. When examining the semen sample from Lot 11, she finds that 50-55% of the sperm cells are moving and about 60% of the cells are normally shaped. What are the results of his BSE?
- He fails due to inadequate motility.
 - He fails due to inadequate morphology.
 - He fails due to inadequate libido.
 - He passes.
9. You have 40 breeding age females. You plan to artificially inseminate them one time each, based solely on natural heats, before turning them out to pasture with your herd sire. Assuming a 75% AI conception rate, how many more cows would you expect to be AI-bred if your heat detection is 90% accurate compared to 70% accurate?
- 2
 - 4
 - 6
 - 8
10. Cattle have a _____ placenta.
- Cotyledonary
 - Zonary
 - Diffuse
 - Discoidal
11. Which of the following genetic traits have an antagonistic correlation?
- Birth Weight and Calving Ease
 - Maternal Calving Ease and Ribeye Area
 - Milk Production and Maintenance Energy
 - Weaning Weight and Yearling Weight
12. Proteins typically contain ___% nitrogen.
- 16
 - 24
 - 33
 - 50
13. The dilution mutation in Simmental cattle is an example of:
- epistasis
 - incomplete penetrance
 - overdominance
 - autosomal recessiveness
14. Which of the following would improve the USDA Yield Grade of a carcass the most?
- A marbling score of SLAB20
 - A ribeye area of 14.5 square inches
 - A KPH fat grade of 1.5%
 - An external fat measurement of 0.10 inches

15. Which hormone is released in large amounts during labor and facilitates in birth, maternal bonding, and milk let-down?
- Estrogen
 - Progesterone
 - Dopamine
 - Oxytocin
16. Which genotype represents a homozygous recessive trait?
- Aa
 - aa
 - AA
 - AB
17. You successfully bred your Purebred Simmental show heifer on April 27. Approximately when should you expect her to calve?
- January 6
 - January 28
 - February 6
 - February 28
18. What is the most common cause of primary mineral deficiencies in beef operations?
- Poor grazing conditions
 - Consumption of mineral antagonists
 - Producer failure to provide a mineral supplement program
 - Lack of proper access to clean water
19. Which step of mammal spermatozoa maturation occurs in the female reproductive tract?
- Involution
 - Meiosis
 - Capacitation
 - Spermatocytation
20. What is the specific name of the process in which oocytes are collected from a donor cow's ovaries?
- Ultrasound-guided follicular aspiration
 - Nonsurgical in-vivo embryo recovery
 - Trans-cervical superovulation
 - Somatic cell isolation
21. You run your mature cows and your first-calf heifers in the same pasture, where they are exposed to the same herd sire. Which of the following statements would you definitely expect to be true?
- On average, the calves out of the mature cows will be heavier at birth.
 - A higher percentage of the first-calf heifers will experience dystocia.
 - The mature cows will have shorter gestations, on average.
 - All of the above.
22. Which of the following is a gamete?
- Blood cell
 - Sperm cell
 - Cytoplasm
 - Mitochondria

23. In the IVF process, how long are fertilized oocytes developed in an incubator prior to being frozen or transferred into recipients?
- 20-24 hours
 - 3 days
 - 7 days
 - 14 days
24. What would be an average KPH% in a beef carcass?
- 3
 - 7
 - 12
 - 18
25. Which viral disease is considered both respiratory and reproductive, as it can cause significant respiratory inflammation as well as infertility and aborted pregnancies?
- IBR
 - BVD
 - BRSV
 - Trichomoniasis
26. What is the most frequent reason for a bull to fail a Breeding Soundness Exam?
- Inadequate motility
 - Inadequate libido
 - Inadequate scrotal circumference
 - Inadequate morphology
27. What is the average feed conversion ratio for beef cattle on feed?
- 4:1
 - 6:1
 - 8:1
 - 10:1
28. Undulant fever is another name for which disease?
- Brucellosis
 - Anaplasmosis
 - Trichomoniasis
 - Blackleg
29. According to USDA guidelines, at what age should heifers be vaccinated for brucellosis?
- Between 2 and 10 months of age
 - Between 4 and 12 months of age
 - Between 6 and 14 months of age
 - Between 8 and 16 months of age
30. When housed at a semen stud, how often are most beef bulls collected?
- Daily
 - Weekly
 - 2-4 times per week
 - 5-6 times per month

Tie Breaker Questions

31. A thorough replacement heifer breeding soundness exam includes:
- a. a physical examination and a reproductive tract score.
 - b. a physical examination, a reproductive tract score, and a pelvic area measurement.
 - c. a physical examination, a reproductive tract score, a pelvic area measurement, and a teat placement score.
 - d. None of the above. There are no established BSE protocols for replacement heifers.
32. The official placing on a class of SimAngus™ Replacement Heifers is 3-1-2-4 with cuts of 2-3-4. You placed the class 3-4-2-1. What is your score?
- a. 43
 - b. 40
 - c. 39
 - d. 36
33. With regards to animal breeding, what does h² indicate?
- a. Heterosis
 - b. Homozygous
 - c. Heritability
 - d. Heifer Pregnancy
34. How many base USDA Quality Grades are there, and how many can be awarded to A-maturity carcasses?
- a. 5,5
 - b. 6,4
 - c. 6,6
 - d. 8,4
35. Refer to the image to the right. What is displayed here?
- a. Embryos ready for transfer
 - b. Abnormal sperm cells
 - c. Fungal spores
 - d. Coccidia eggs

