

Phase B      5 Questions      Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. What is the name of the hormone produced by the ovary that makes cows come into heat?

ANS: Estrogen

2. In the new USDA food pyramid guidelines, how many servings of dairy products per day are recommended for people?

a) 1    b) 2    c) 3    d) 4

ANS: c) 3

3. Which one of the following is the name of the acute infection caused by the spore-forming bacteria, *Bacillus anthracis*, that primarily affects livestock?

- |                           |                   |
|---------------------------|-------------------|
| a) Rabies                 | c) Johnes Disease |
| b) Foot and Mouth disease | d) Anthrax        |

ANS: d) Anthrax

4. Which one of the following feeds is a by-product of an ethanol fuel production facility?

a) alfalfa    b) fescue    c) distillers grains    d) clover

ANS: c) distillers grains

5. Which one of the following can be present at high levels in drought-stressed forages, especially following a rain, that can be toxic to dairy animals?

a) nitrates    b) protein    c) calcium    d) phosphorous

ANS: a) nitrates

Phase C      20 Questions      Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. Carbon, hydrogen and oxygen are the three basic elements contained in which one of the following nutrients?

- a) carbohydrates      b) protein      c) amino acids

ANS: a) carbohydrates

2. Which compartment of the cow's stomach has a lining that looks like a honeycomb and serves to trap foreign objects that are eaten such as wire or nails?

ANS: Reticulum

3. Which of the following is the proper name for "mad cow disease"?

- a) FMD (foot and mouth disease)      b) BSE (Bovine Spongiform Encephalopathy)  
c) brucellosis

ANS: b) BSE (Bovine Spongiform Encephalopathy)

4. Which one of the following is the name of the most desirable acid produced during corn silage fermentation that functions to preserve the silage when the silage is stored in a silo?

- a) butyric acid      b) lactic acid      c) hydrochloric acid

ANS: b) lactic acid

5. Which one of the following causes the disease called "blackleg" in cattle?

- a) acidosis      b) ketosis      c) nitrates      d) clostridium bacteria

ANS: d) clostridium bacteria

**6. You send a sample of corn silage from your trench silo to the lab for nutrient analysis. The report lists the dry matter of the silage at 30%. How many pounds of dry matter are in one ton (2000 pounds) of the silage?**

- a) 680      b) 300      c) 600      d) 2000

ANS: c) 600

**7. Which one of the following terms is used to measure the accuracy of a genetic valuation?**

- a) marketability      b) predictability      c) reliability

ANS: c) reliability

**8. Which one of the following is used as an indicator of a mastitis infection in dairy cows?**

- a) the vitamin content      b) the fat content      c) the somatic cell count (SCC) in milk

ANS: c) the somatic cell count (SCC) in milk

**9. Which one of the following is closest to the total ration protein requirement for dry dairy cows?**

- a) 8%      b) 12%      c) 16%      d) 20%

ANS: b) 12%

**10. Which compartment of the ruminant stomach has been punctured when a cow has "hardware disease"?**

- a) rumen      b) reticulum      c) omasum      d) abomasum

ANS: b) reticulum

**11. On the PDCA Dairy Cow Unified Score Card, how many points are allocated to the "Feet and Legs" category?**

- a) 15      b) 20      c) 10      d) 40

ANS: a) 15 points

**12. Which one of the following describes “IgG”?**

- a) an injection given to prevent retained placenta
- b) an energy supplement for early lactation cows
- c) a class of immunoglobulins (or antibodies)

ANS: c) a class of immunoglobulins (or antibodies)

**13. In reference to the dairy industry, what does ADSA stand for?**

ANS: American Dairy Science Association

**14. Which one of the following forages is not classified as a legume?**

- a) clover
- b) alfalfa
- c) corn silage

ANS: c) corn silage

**15. What dairy cattle disease of the udder can be caused by the bacteria *Staphylococcus aureus*?**

ANS: Mastitis

**16. When a cow is superovulated and the resulting developing embryos are transferred to unrelated recipient cows, the calves that are born will be:**

- a) unrelated
- b) identical
- c) full siblings

ANS: c) full siblings

**17. Approximately how much water does normal whole milk contain?**

- a) 67.5%
- b) 77.5%
- c) 87.5%
- d) 97.5%

ANS: c) 87.5%

**18. The duodenum, jejunum and ileum are the names of the three sections of which one of the following parts of the digestive system?**

- a) small intestine
- b) large intestine
- c) rumen
- d) abomasum

ANS: a) small intestine

19. Which of the following has the greatest effect on the concentration of protein in a forage?

- a) stage of maturity of the plant    b) weed control    c) amount of lime applied per acre

ANS: a) stage of maturity of the plant

20. Which of the following hormones is released when a cow is frightened?

- a) adrenaline (epinephrine)    b) estrogen    c) progesterone    d) testosterone

ANS: a) adrenaline (epinephrine)

**Bonus Questions    Each bonus question is worth 20 points.**

**Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.**

**1. What is the term used to describe an animal that is born without horns?**

ANS: Polled

**2. At first calving, what percentage of mature weight should first calf heifers weigh?**

- a) 65%    b) 75%    c) 85%    d) 95%

ANS: c) 85%

**3. On the PDCA Dairy Cow Unified Score Card, in which category is the "barrel"?**

ANS: Body Capacity