1. As Neutral Detergent Fiber (NDF) content of hays increase, which of the following is accurate?
   A. Ruminants will consume less    B. Maturity at harvest was older
   C. Energy content declines        D. All are accurate

2. Which of the following is not a component of the Beef Quality Assurance (BQA) Program?
   A. Feed and Nutrition   B. Genetics and Breeding
   C. Identification and record-keeping D. Vaccine and drug practices

3. The ingredient to add to a swine ration that will provide the most energy is________?
   A. Soy oil    B. Corn    C. Molasses    D. Oats

4. Which one of the following crossbred calves would exhibit the most hybrid vigor?
   A. Hereford X Angus    C. Simmental X Angus
   B. Hereford X Shorthorn D. Brahman X Angus

5. Which viral disease of swine had a recent widespread, multistate outbreak?
   A. TGEV    B. PEDV    C. PRRVS    D. PRV

6. What class of nutrients are needed for proper bone and tooth formation?
   A. Minerals   B. Vitamins   C. Carbohydrates   D. Proteins

7. What vitamins are produced by the bacteria in the rumen but must be provided to swine?
   A. A vitamins    B. B vitamins    C. C vitamins    D. K vitamins

8. A genetic condition in swine that makes them susceptible to external stress associated with animal movement and changes in their environment. Animals testing positive for the gene produce carcasses with poor lean quality.
   A. Napole   B. Porcine Stress Syndrome   C. Pseudorabies   D. Dysentery

9. Will the period for standing heat usually last longer for sows or gilts?
   A. Sows   B. gilts   C. the same

10. Which is a genetic estimate of an offspring’s performance in relation to the average of other animals in the breed?
    A. Most Probable Producing Ability   B. Breeding Soundness Status
    C. Expected Progeny Difference   D. Ratio

11. If the carcass price of lamb is $3.00 per pound, which is closest to the equivalent live price/lb?
    A. $1.50   B. $1.25   C. $1.85   D. $2.00

12. What temperature should piglets be kept at for the first 10 days?
    A. 75-80° F   B. 80-85° F   C. 85-90°F   D. 90-95° F
13. Sheep and goats tend to consume _________ percent of their body weight in hay as compared to beef cattle.
   A. Higher  B. Lower  C. Equal

14. Which of the following are considered to genetic defects in livestock species?
   A. Porcine Stress Syndrome  B. Spider Syndrome
   C. Dwarfism  D. All choices are genetic defects

15. Volatile fatty acids are produced in which portion of the ruminant stomach?
   A. Rumen  B. Reticulum  C. Omasum  D. Abomasum

16. A pork carcass weighs 135 pounds, has 0.7 inch of backfat and a loin eye area of 6.5 square inches. This carcass is
   A. Too fat  B. Too light muscled  C. Too light weight  D. Desirable

17. What is high energy forage crop utilized in most market beef rations?
   A. Corn grain  B. Chopped hay  C. Corn silage  D. Distillers grain

18. Which one of these Continental breeds of cattle is more maternally oriented?
   A. Chiannia  B. Brahman  C. Limousin  D. Simmental

19. Which hormone or hormones can be use in cattle and sheep estrous synchronization programs?
   A. Progesterone  B. Prolactin  C. Prostaglandin
   D. Estrogen  E. both A & C

20. The target body condition score of a cow prior to calving is?
   A. 4-5  B. 5-6  C. 6-7  D. 7-8

21. BQA guidelines suggest a maximum of _____ per injection site?
   A. 5 ml  B. 7 ml  C. 10 ml  D. 12 ml

22. A deficiency of biotin and methionine has an impact on what part of the animal?
   A. bones  B. hoof and pad  C. cartilage  D. none of the above

23. In relation to EPD’s, estimated breeding values are?
   A. one half of EPDs  B. twice the EPDs  C. equal to EPDs  D. 5 times the EPDs

24. What happens when hay or silage is stored too wet?
   A. lose nutrients  B. improper fermentation  C. lower palatability
   D. all choices are correct

25. Who contributes the Y chromosome to a bull calf?
   A. sire  B. dam  C. Grand sire  D. Grand dam