

COACHES MEETING
2017 National FFA Poultry Evaluation CDE
Written Examination

Directions: Please read each item carefully. Using a **No. 2 pencil**, bubble the letter on your scan sheet that corresponds with the most correct answer.

1. The carry of muscling in market broilers is determined by how well the breast meat width carries from the _____ to the end of the keel bone. **(p. B-4)**

a. middle of the breast
b. front of the tibia
c. points of wing attachment **"C"**
d. point of sacral attachment

2. While candling an egg, an individual observes very small blood spots that do not aggregate to more than 1/8 inch in diameter. This egg would be assigned a USDA Grade of _____. **(p. B-27)**

a. AA
b. A
c. B **"C"**
d. Loss

3. While evaluating exterior shell quality, slight/moderate, localized stains covering less than 1/32 of the shell are observed. Which USDA Grade should be assigned to this egg? **(p. B-35)**

a. A
b. AA
c. B **"C"**
d. C

4. The USDA defines natural proportion of skin in further-processed poultry products as making up to what percentage of the total weight of the product (meat + skin)? **(p. B-38)**

a. 38%
b. 28%
c. 18% **"C"**
d. 8%

5. When identifying the parts of a chicken carcass, you observe that a part has been severed from the breast approximately half way between the end of the hypocleidium and from the point of the cranial process of the sternal crest to a point where the part joins the shoulder. This part should be identified as a _____. **(p. B-47)**

a. wishbone

“A”

b. breast quarter

c. breast quarter without wing

d. split breast

6. The commercial poultry industry in the United States has two overall objectives: (1) production of table eggs, and (2) production of _____. **(p. C-2)**

a. further-processed products

b. meat, primarily consisting of chicken and turkey products

“B”

c. eggs for cooking, including baking

d. eggs for commercial institutions

7. A wing's secondaries form the _____. **(p. C-15)**

a. wing-bay

“A”

b. wing-bow

c. wing-bar

d. wing-front

8. After 4 to 6 days of incubation, which part of an incubating egg collects water from the albumen to protect and support the developing embryo? **(pp. C-29 & C-30)**

a. amnion

“A”

b. allantois

c. chorion

d. chorioallantoic membrane

9. Increased embryo mortality in incubating chicken eggs usually occurs **(p. C-35)**

a. around day 4 and an even larger percentage at day 18.

“A”

b. with the largest percentage on day 14.

c. with the largest mortality, early on day 4.

d. near hatching on day 24.

10. Which of the following descriptions about infectious disease agents is false? (p. C-39)
- a. protozoa are microscopic
 - b. protozoa are multicellular organisms** "B"
 - c. a parasite host is an organism in which a parasite lives
 - d. mycoplasma organisms lack a cell wall
11. Which of the following statements about disease prevention is not true? (pp. C-41 & C-42)
- a. The 4 major components of biosecurity are isolation, traffic control, sanitation, and recovery.** "A"
 - b. Biosecurity refers to precautions taken to minimize the risk of infectious disease introduction.
 - c. Isolation refers to confinement of animals within a controlled environment.
 - d. When you arrive at a farm for visit, consider yourself "dirty."
12. Which of the following diseases is highly contagious for young chicks, affects primarily the bursa of Fabricius, and leads to poor vaccination responses? (p. C-47)
- a. Gumboro disease** "A"
 - b. fowl cholera
 - c. Marek's disease
 - d. Newcastle disease
13. Regarding poultry waste management and the storage of broiler litter, research performed on roofed storage systems shows that this type of system loses what percentage of ammonia nitrogen after two months, assuming no airtight cover is used? (p. C-60)
- a. 15%
 - b. 30%
 - c. 10%** "C"
 - d. 5%
14. Daily manure production by 100 six-week old broilers consuming 26 to 30 pounds feed per day may be expected to produce how much manure each day? (p. C-65)
- a. 30 to 35 pounds** "A"
 - b. 26 to 30 pounds
 - c. 50 to 60 pounds
 - d. 13 to 15 pounds

15. High humidity is most often a _____ problem and can affect bird health. (p. C-68)

- a. summer
- b. winter**
- c. spring
- d. fall

“B”

16. The term _____ means moving outside air into the poultry house, and exhausting inside air out of the house. (p. C-69)

- a. air transfer
- b. exsanguination
- c. ventilation**
- d. transitioning

“C”

17. The modern breeds of chickens we have today were mainly derived from which two types of birds? (p. C-78)

- a. Asiatic and Mediterranean**
- b. Mediterranean and Continental
- c. American and English
- d. South Asian and Mesopotamia

“A”

18. Vitamins are essential organic (carbon-based) compounds needed in small amounts by a bird and are divided into two categories: fat-soluble and water-soluble. A, D, E, and K are _____. (p. C-86)

- a. water-soluble vitamins
- b. fat-soluble vitamins**
- c. good supplemental vitamins but not necessary for a bird's growth and health
- d. non-essential vitamins

“B”

19. The expected crude protein (CP) percentage of the Fish Meal used in most poultry rations is approximately _____. (p. C-90)

- a. 85%
- b. 45%
- c. 60%**
- d. 75%

“C”

20. In 2015, the National Chicken Council estimated that _____% of chicken marketed in the United States was sold as whole birds.

(this section is found on myservices.com, as described in the Poultry Science Manual for National FFA Events, 7th edition.)

- a. 11
- b. 85
- c. 15
- d. 2

“A”

21. The first step in processing poultry for human consumption is _____.

(this section is found on myservices.com, as mentioned on page in the Poultry Science Manual for National FFA Events, 7th edition.)

- a. catching and loading
- b. transporting
- c. **withdrawal of feed and water**
- d. stunning

“C”

22. In the United States, under inspected slaughter facilities, poultry are typically

(this section is found on myservices.com, as mentioned on page in the Poultry Science Manual for National FFA Events, 7th edition.)

- a. **stunned before slaughter using current flowing through a saline bath to the head of the bird.**
- b. rendered unconscious prior to slaughter using a carbon dioxide-based gas.
- c. slaughtered with an axes and chopping blocks.
- d. slaughtered without stunning to facilitate bleed-out.

“A”

23. The cost of poultry meat in the United States has been kept low compared to other meat products by using a _____ strategy.

(this section is found on myservices.com, as mentioned on page in the Poultry Science Manual for National FFA Events, 7th edition.)

- a. **vertical integration**
- b. horizontal or lateral production
- c. side-way, “just in time” sales
- d. 3-D integration

“A”

24. Poultry processors and marketers have shifted their product mix to white meat packs, marinated products, patties, nuggets, tenders, hot wings, and turkey jerky. These types of products are referred in the industry as _____. **(this section is found on myservices.com, as described in the Poultry Science Manual for National FFA Events, 7th edition.)**

- a. supplemental parts
- b. vertically processed
- c. value-added**
- d. secondary trade

“C”

25. The wasting away of body tissue or an organ is termed _____. **(p. D-3)**

- a. virulence
- b. muscularity
- c. gangrene
- d. atrophy**

“D”

26. How many pounds of corn (9.00% crude protein) and pounds of protein concentrate (37.00% crude protein) are required to formulate 100 lb of 16.00% crude protein mix? **(C-95)**

- a. 75 lb protein concentrate, 25 lb corn
- b. 21 lb corn, 7 lb protein concentrate
- c. 75 lb corn, 25 lb protein concentrate**
- d. 84 lb corn, 16 lb protein concentrate

“C”

9% CP corn – 16% CP target = 7 parts
37% CP concentrate – 16% CP target = 21 parts
7 + 21 = 28 total parts

Using Pearson’s Square

CORN	9	21
DESIRED		16
CONCENTRATE	37	7
		28 Total Parts

Corn: 21 / 28 * 100 = 75.00%; 75.00% * 100 = 75 lb

Protein Concentrate: 7 / 28 * 100 = 25.00%; 25.00% * 100 = 25 lb

27. If the daily feed intake of 100 laying hens is 23 lb and the daily manure output is 27 lb, what percentage of the manure output is a result of feed intake? (p. C-64)

- a. 117.39%
- b. 85.19%**
- c. 46.00%
- d. 62.10%

“B”

Applying related data presented in this area:

$$23 / 27 * 100 = \underline{85.19\%}$$

28. The soil nutrient value of egg layer manure is assumed to be 1.40% nitrogen (N), 1.00% phosphorus as P_2O_5 , 0.60% K as K_2O , and 4.00% calcium based on a dry matter (DM) basis. Assume that on average 1,000 hens produce 207 lb of manure dry matter each day. After 1 week (7 days), how many pounds of N will have been produced?

- a. 207 lb
- b. 25,875 lb
- c. 2,535.75 lb**
- d. 1,449 lb

“C”

Applying data obtained from p. C-64 and p. C-65:

$$125,000 / 1,000 = 125$$

$$125 * 207 \text{ lb / day / } 1,000 \text{ hens} = 25,875$$

$$25,875 \text{ lb / day} * 7 \text{ days} = 181,125 \text{ lb DM of manure / week}$$

$$181,125 * .014 (\% \text{ of N}) = \underline{2,535.75 \text{ lb N / week}}$$

29. A flock of 23,225 broilers has an average weight of 5.75 pounds per bird. The dressing percentage (without giblets, or WOG) is expected to be 64.50%, and the breast yield is expected to be 33.00% of the carcass WOG weight. If breast meat is valued at \$1.63 per pound, what is the expected total value of breast meat produced by this flock (to the nearest dollar)? **(search myservices.com, "Marketing Poultry Products" pp. 2 and 3, as mentioned on in the Poultry Science Manual for National FFA Events, 7th edition.)**

- a. \$86,136
- b. \$46,332**
- c. \$133,544
- d. \$2,843

"B"

23,225 birds * 5.75 lb / bird * 64.50% WOG yield * 33.00% breast yield = 28,424.79 lb breast meat; 28,424.79 lb * \$1.63 / lb = \$46,332 is the expected total value of breast meat produced by this flock

30. A broiler company expects to produce 500,000 birds per week, and typically loses 1% of all birds due to leg problems. The average live weight of birds at the time of processing is 5.5 pounds / bird, and the dressing percentage (without giblets, or WOG) is expected to be 64.00%. If the carcass value (WOG) is \$0.81 / pound, calculate how much money each year would be represented by the loss of birds with leg problems compared to expected value if the company was able to produce these broilers. **(search myservices.com, "Marketing Poultry Products" pp. 2 and 3, as mentioned in the Poultry Science Manual for National FFA Events, 7th edition) and pages C-48, C-49 of the Manual.**

- a. \$14,256
- b. \$259,200
- c. \$7,413,120
- d. \$741,312**

"D"

**500,000 birds * 1.00% = 5,000 birds lost / week;
5,000 birds * 5.5 lb / bird * 64.00% WOG yield * \$0.81 / pound = \$14,256 lost / week; \$14,256 / week * 52 weeks / year = \$741,312 lost per year**