

**2016 National FFA Poultry Evaluation CDE
Written Examination - KEYED**

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. A birds' body conformation is evaluated objectively because the structural dimensions can be measured and recorded, which is similar to the _____ measurements of a human body.

B-2

- a. **height and waist**
- b. height and weight
- c. height and length of neck
- d. height and circumference of the bird's skull

2. When evaluating the pigment loss of a white leghorn hen in lay for approximately 8 to 12 weeks (cumulative), this hen should have laid about how many eggs on an average?

B-8

- a. 159
- b. **68**
- c. 25
- d. 180

3. If evaluating egg-type hens for past production, the primary wing feathers should be observed to determine rate of molt. How many primary wing feathers (on each wing) should be found on a healthy egg-type Leghorn hen not molting at the time of evaluation?

B-11

- a. 12
- b. 11
- c. **10**
- d. 14

4. When assigning the USDA grade for a thigh with back portion part removed from the carcass of a Ready-To-Cook broiler, you observe the femur is disjointed from the hip joint. This observation suggests the part should receive a USDA grade of _____.

B-20

- a. B
- b. **A**
- c. Non-Gradable
- d. C

5. When grading eggs for interior quality, the grader should be very familiar with the parts comprising an egg. It is understood that an egg is divided into four main categories, including the yolk. And the yolk is made up of five distinct parts. Of the parts listed, which is not a part of the yolk?

B-24

- a. germinal disc
- b. latebra
- c. vitelline membrane
- d. **mamillary layer**

6. When evaluating a shell egg for exterior quality, the grader observes localized stains covering less than 1/32 of the visible portion of the shell. What USDA Grade should be assigned for this egg?

B-34

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

7. When evaluating further-processed poultry meat products, a sample of chicken fingers and chicken strips would be included in the _____ product type category.

B-39

- a. **tenders**
- b. patties
- c. nuggets
- d. bone-In

8. When identifying parts of a chicken, the judge observes a part was severed from the breast approximately half way between the end of the hypocleidium and from the point of the cranial process of the breastbone's sternal crest to a point where the part joins the shoulder. This part is a _____.

B-47

- a. **wishbone**
- b. breast quarter
- c. breast quarter without wing
- d. split breast

9. The industry supplying producers with the services and materials necessary for production, including the processing and marketing of products to meet the consumer's needs is _____.

C-9

- a. agriscience and technology
- b. agricultural communications and media
- c. agribusiness**
- d. agrimerchandising

10. The wing's secondary feathers form the _____.

C-15

- a. wing-bay**
- b. wing-bow
- c. wing-bar
- d. wing-carriage

11. Chickens and turkeys have pointed beaks because _____.

C-21

- a. they are grain eaters**
- b. they are selective eaters
- c. they are easier to debeak
- d. None of the above answers is correct.

12. When discussing the muscular system of chickens and turkeys, many muscles perform specific functions. The muscle that moves the scapula and draws the head left or right is the _____.

C-17

- a. sartorius
- b. trapezius**
- c. latissimus
- d. flexor perforans

13. The ovary of a hen _____.

C-23 & C-24

- a. forms at sexual maturity
- b. is suspended (or found) proximal to the infundibulum**
- c. is about 30 inches long
- d. produces the albumen from which an egg is formed

14. Which cell layers of the chicken embryo are visible after 18 to 19 hours of incubation?
C-30
- a. **ectoderm, mesoderm, and endoderm**
 - b. ectoderm, endoderm, and protoderm
 - c. ectoderm, megoderm, and dermis
 - d. ectoderm, epidermis, and neural fold
15. On which of the following does formation of the chick embryo's central nervous system depend?
C-32
- a. somatic neuroplast
 - b. neural tube**
 - c. sclerotome
 - d. mytome
16. Increased embryo mortality in incubating chicken eggs usually occurs
C-35
- a. around day 4 with an even larger percentage at day 18.**
 - b. with the largest percentage at day 14.
 - c. with the largest mortality at day 4.
 - d. near hatching at day 24.
17. Which answer is not an ectoparasite?
C-40
- a. fleas
 - b. ticks
 - c. tapeworms**
 - d. lice
18. In terms of biosecurity protocols, it is stressed that visitors might be a source of disease introduction into a poultry operation. Which answer best describes a visitor in regard to biosecurity procedures?
C-43
- a. a neighboring poultry operator
 - b. a neighbor without poultry
 - c. a feed truck driver
 - d. Anyone who does not work on the farm on a daily basis and plans to enter a poultry building or pass through biosecure perimeters.**

19. Which poultry disease is described as highly acute and contagious and characterized by rales, coughing, and sneezing?
C-48
- a. **infectious bronchitis**
 - b. infectious laryngotracheitis
 - c. fowl pox
 - d. fowl cholera
20. Which disinfectant is partially effective against fungi and viruses and widely used in commercial hatcheries?
C-55
- a. Phenols
 - b. **quaternary ammonium compounds**
 - c. iodophors
 - d. hypochlorites
21. A major component of biosecurity is
C-43
- a. sanitation.
 - b. isolation.
 - c. traffic control.
 - d. **All of the above answers are major components of biosecurity.**
22. A hatchery's measure of success is the number of quality chicks produced. This number is expressed numerically as _____.
C-120
- a. percent fertile eggs set
 - b. **percent hatchability**
 - c. percent of fertile eggs incubated for 21 days
 - d. percent morbidity of chick embryos
23. A characteristic of quality broiler chicks is that they have been produced from stock that is MS and MG negative or clean. MS and MG are abbreviations for which disease-causing agents?
C-132
- a. mycocausm synovera and mycocausa galonerva
 - b. mycocausa synoviae and mycocausa galonerva
 - c. mycoplasma synoviae and mycoplasma galonerva
 - d. **mycoplasma synoviae and mycoplasma gallisepticum**

24. Pre-warming of hatching eggs is a critical step in incubation in poultry operations. Which step is considered essential to proper pre-warming?

C-122

- a. extend the incubation period for larger eggs
- b. supplement the eggs' environment with CO₂
- c. warm eggs at 75 °F to 80 °F for 6 to 12 hours and provide good air circulation**
- d. All of the above answers are essential steps in the proper pre-warming of hatching eggs.

25. For best hatchability results, an egg must lose _____ of its weight by the 18th day of incubation?

C-124

- a. 6%
- b. 12%**
- c. 18%
- d. 24%

26. Using a stocking density recommendation for 6 week-old market broilers of 0.86 ft² per bird, how many broilers would a 30 ft X 40 ft building accommodate?

- a. 140
- b. 1,396**
- c. 13,954
- d. 12,000

$30 \text{ ft} \times 40 \text{ ft} = 1200 \text{ ft}^2$; $1200 / .86 = \underline{1,396 \text{ broilers}}$

C-132

27. A producer's target weight was 5.5 lb per broiler. The producer's starter diet accounted for 17% of the flock's feed consumption, the grower diet accounted for 48% of feed consumption, and the finisher diet was 35%. If overall feed conversion for a flock of 21,000 broilers was 1.9 lb of feed per lb of gain, approximately how many tons of each diet were fed?

- a. 109.725 tons of each diet were fed
- b. 18.65 tons of starter diet; 38.40 tons of grower diet; 52.67 tons of finisher diet
- c. 54 tons of starter diet; 152.50 tons of grower diet; 111.17 tons of finisher diet
- d. 18.65 tons of starter diet; 52.67 tons of grower diet; 38.40 tons of finisher diet**

$21,000 \text{ broilers} \times 5.5 \text{ lb of broiler} = 115,500 \text{ lb of broilers}$

$115,500 \text{ lb broilers} \times 1.9 = 219,450 \text{ lb of feed consumed}$

$219,450 / 2,000 \text{ lb} = 109.725 \text{ tons of feed consumed}$

$109.725 \times .17 = \underline{18.65 \text{ tons of starter diet}}$

$109.725 \times .48 = \underline{52.67 \text{ tons of grower diet}}$

$109.725 \times .35 = \underline{38.40 \text{ tons of finisher diet}}$

C-136 (see table)

28. According to the Nicholas Commercial Market Turkey Ration guidelines, a turkey finishing diet contains 0.32% salt (NaCl) added as an ingredient. Salt contains 60% chlorine and 40% sodium by weight. If salt was added at the rate of 0.32% per 2-ton mix of turkey finishing diet, what level of sodium would this added salt contribute to the diet as a percentage?

- a. 0.08%
- b. 0.256%
- c. 0.192%
- d. 0.128%**

$0.0032 \times 0.40 \times 100 = \underline{0.128\%}$

C-155 (see table)

29. A laying flock of 125,000 hens is consuming 0.250 lb of feed per day per hen at a house temperature of 70 °F. It is estimated that for each 2 °F increase in temperature, feed consumption will decrease by 1%. The estimated feed consumption of these hens at a house temperature of 90 °F would be approximately how many tons of feed per day?

a. **~14.063 tons of feed / day**

b. ~141.000 tons of feed / day

c. ~15.625 tons of feed / day

d. ~28.126 tons of feed / day

At 70 °F: 125,000 hens X 0.250 lb / 2000 = 15.625 tons of feed / day

At 90 °F: A 20 °F increase in house temperature = 10% decrease in feed consumption per hen per day or 0.250 lb X 0.90 = 0.225 lb of feed consumed per hen per day at this temperature.

0.225 lb of feed consumed per hen per day at a house temperature of 70 °F X 125,000 hens / 2000 = ~14.063 tons of feed / day

or

15.625 tons of feed consumed by 125,000 hens per day at a house temperature of 90 °F X 0.90 = ~14.063 tons of feed / day

C-161 (see table)

30. A small LED bulb releases 800 lumens. If only about 49% of light from the LED bulb is available to hens in a laying house, approximately how many lumens are available to the hens?

a. **~392**

b. ~408

c. ~39,200

d. ~3,920

800 lumens X 0.49% = ~392 lumens

C-179 & C-180