

**2014 National FFA Poultry Evaluation Career Development Event
Written Examination**

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

- 1) The covert feathers are found on which parts of the chicken?
 - a. wing and tail
 - b. neck and wing
 - c. neck and thigh
 - d. None of the above answers is correct.

a C-15
- 2) The term for passing or laying of an egg is
 - a. ovulation.
 - b. expulsion.
 - c. oviposition.
 - d. cycling.

c C-24
- 3) Which of the following is a bi-lobed gland at the base of the brain and called the “master gland” because it releases hormones which regulate activities of other endocrine glands?
 - a. oxytocin
 - b. pituitary
 - c. ovary
 - d. adrenals

b C-26
- 4) The egg yolk contents are retained by the _____ membrane and the blastodisc is attached to it.
 - a. inner
 - b. vitaline
 - c. chalazae
 - d. vitelline

d C-27
- 5) What percentage of hatch of chicks would be expected for eggs in which the head of the embryo develops oriented toward the pointed (small) end of the egg?
 - a. 25%
 - b. less than 50%
 - c. 75%
 - d. 0%

b C-33

- 6) Which two days of incubation in chickens are expected to have the highest mortality?
- 4 and 18
 - 1 and 21
 - 4 and 24
 - None of the above answers is correct.
- a C-35**
- 7) Which of the following nutrient deficiencies of the hen may affect embryonic development but not necessarily prevent egg formation from occurring?
- calcium
 - vitamins and trace minerals
 - phosphorus
 - calcium and phosphorus
- b C-35**
- 8) Which pathogen can be described as ubiquitous (nearly everywhere) in the chicken population?
- coccidiosis
 - croupe
 - fomites
 - Marek's disease virus
- d C-39**
- 9) Transmission of infectious agents in poultry by contact, such as touching, pecking, or mating or from droplet spread, is considered a form of
- vehicle-borne transmission.
 - vector-borne transmission.
 - airborne transmission.
 - direct transmission.
- d C-41**
- 10) A major component of biosecurity is
- isolation.
 - traffic control.
 - sanitation.
 - All of the above answers are components of biosecurity.
- d C-43**
- 11) This disease is caused by a herpes virus and characterized by rapid spread, sneezing, gasping, and possible expectoration of blood-stained mucus.
- Newcastle disease
 - Marek's disease
 - infectious bronchitis
 - laryngotracheitis
- d C-49**

- 12) A toxic gas heavier than air which may be emitted during pump-out or agitation of manure storage pits is
- carbon monoxide.
 - hydrogen peroxide.
 - ammonia.
 - hydrogen sulfide.
- d C-64**
- 13) In a two-stage lagoon system, the first stage or cell is usually deep and _____, and the second stage or cell is shallower and _____.
- anaerobic; aerobic
 - aerobic; anaerobic
 - bacterial; sterile
 - antioxidant; putrid or pungent
- a C-66**
- 14) The optimum storage temperature for broiler hatching eggs stored for only 3 days before setting versus eggs stored for 18 days would be _____.
- 63 to 66°F / 60 to 62°F
 - 60 to 62°F / 60 to 62°F (same)
 - 60 to 62°F / 63 to 66°F
 - None of the above answers is correct.
- a C-121**
- 15) Three factors known to influence the total incubation time required for a setting of eggs to hatch are
- incubation temperature, age of egg, and size of egg.
 - egg storage temperature, season of year, and size of egg.
 - incubation temperature, breed of chicken, and fertility rate.
 - None of the above answers is correct.
- a C-122**
- 16) Chicks are hatching with some difficulty and many are sticky and some have shell fragments stuck to their wings and back. Which condition most likely contributed to this problem?
- odd shaped eggs
 - genetic defects
 - washing eggs in hot water
 - incubator temperature too high (day 20 to day 21)
- d C-131**
- 17) The recommended light intensity at bird height for market broilers is
- 10 to 20 lux.
 - 10 to 20 photons.
 - 20 to 40 foot-candles.
 - 10 to 20 foot-candles.
- a C-140**

- 18) The eviscerated carcass yield of market broilers
- decreases 1% for each 1% shrinkage in live weight during shipment to processing.
 - decreases 0.66% for each 1% shrinkage in live weight during shipment to processing.
 - increases 1% for each 1% shrinkage in live weight during shipment to processing.
 - is not affected by shrinkage during shipment to processing.
- b C-141**
- 19) How often are commercial female turkey breeder hens artificially inseminated?
- weekly
 - biweekly
 - twice per week
 - The hens are not artificially inseminated, rather natural mating is used.
- a C-148**
- 20) On average, feed represents what percentage of the cost of market turkey production?
- 50%
 - 60%
 - 70%
 - 80%
- c C-158**
- 21) Which of the following statements is true in regard to growing commercial varieties of egg-type pullets?
- Uneven body weights early in the rearing period is easily corrected by management.
 - Common causes of lack of uniformity in pullet body weights are crowding, disease, poor beak trimming, and inadequate nutrient intake.
 - The flock should be managed to avoid excessive body weight gain during the 12 to 18 week age of rearing.
 - Answers “b” and “c” are true.
- d C-166 & C-167**
- 22) Which of the following is not a good management practice regarding eggs produced from free-range systems?
- Making provisions at the entrance of the poultry house to clean the feet of the hens.
 - Preventing or limiting the number of broken eggs in the nests.
 - Managing to prevent or limit hens from sleeping in the nests.
 - Encouraging floor laying of eggs because this will decrease the number of dirty eggs collected.
- d C-181**

- 23) The Mediterranean Class of Large Fowl includes the
- Leghorn, Minorca, and Ancona breeds.
 - Houdan and Hamburg breeds.
 - Orpington, Sussex, and Cornish breeds.
 - Rhode Island Red, Plymouth Rock, and New Hampshire breeds.

a C-188

- 24) The most common game bird raised in the United States is the
- Coturnix Quail.
 - Bobwhite Quail.
 - Chukar Partridge.
 - Ringneck Pheasant.

b C-199

- 25) A cell that can ingest and destroy foreign cells such as bacteria is a
- bacterphage.
 - microphage.
 - macrophage.
 - None of the above answers is correct.

c D-10

- 26) On a commercial turkey farm, toms are grown to an average final weight of 45 pounds. If the space requirement of the finishing barn for these turkeys is 1 square foot per 10 pound of turkey, which of the following barn sizes is closest to the total square feet required to appropriately house 4,400 turkeys?
- a 30 feet wide by 400 feet long finishing barn
 - a 60 feet wide by 400 feet long finishing barn
 - a 50 feet wide by 400 feet long finishing barn
 - a 30 feet wide by 500 feet long finishing barn

c based on page C-153

$$4,400 \text{ tom turkeys} \times 45 \text{ pounds} = 198,000 \text{ pounds}$$

$$198,000 \text{ lbs} / 10 \text{ lbs per square foot} = 19,800 \text{ square feet}$$

$$50 \text{ feet} \times 400 \text{ feet} = 20,000 \text{ square feet}$$

- 27) A broiler farm contains houses measuring 50 feet wide by 500 feet long. In each house, bird density is 1.042 square feet per bird. If the total live weight produced per house is 186,000 pounds, what is the approximate average weight per bird?
- 7.75 pounds
 - 6.25 pounds
 - 5.28 pounds
 - 4.09 pounds

a based on page C-132

$$50 \times 500 = 25,000 \text{ square feet} \times 1 \text{ bird} / 1.042 \text{ square feet} = 23,992 \text{ birds in the house}$$

$$186,000 \text{ pounds} / 23,992 \text{ birds} = 7.753 \text{ pounds per bird}$$

28) In a turkey facility, the targeted minimum ventilation per pound of turkey is 1.5 CFM. Assume in a small facility, 1,150 hen turkeys weighing 12 pound each are placed in a 35 feet wide by 65 feet long barn. If only one fan is used, which of the following fans would be capable of providing the required rate of air movement?

- a. 1 hp, 48-inch variable speed box fan rated at 21,000 CFM High, 4,050 CFM Low
- b. 1/4 hp, 20-inch direct drive single speed fan rated at 3,200 CFM
- c. 1/2 hp, 36-inch variable speed box fan rated at 11,230 CFM High, 4,050 CFM Low
- d. None of the above fans would provide sufficient capacity

a based on page C-153

$1,150 \times 12 = 13,800$ pounds of turkey and $13,800 \times 1.5 = 20,700$ CFM
(only the 1-hp fan has the required rated capacity)

29) At the beginning of the egg laying cycle, 152,000 hens were housed in a commercial egg layer facility. At 52-weeks of lay, 142,400 hens remained and were producing 290 cases of 30 dozen eggs per day. What were the hen-housed egg production rate and the hen-day rate of lay of these hens at that point in their laying cycle?

- a. 73.31% Hen-housed and 68.68% Hen-day production
- b. 68.68% Hen-housed and 73.31% Hen-day production
- c. 73.31% Hen-housed and 82.33% Hen-day production
- d. None of the above answers is correct.

b based on page C-177

$30 \text{ dozen} \times 12 \times 290 = 104,400$ eggs
 $\text{Hen-day} = 104,400 / 142,400 \times 100 = 73.31\%$
 $\text{Hen-housed} = 104,400 / 152,000 \times 100 = 68.68\%$

30) In a commercial egg facility, the typical feed consumption per one dozen eggs is 3.01 pounds. If a flock's diet contains 68% corn, and one bushel of corn weighs 56 pounds, how many bushels would be represented in the daily feed consumed by a flock of 125,000 laying hens producing eggs on a 75% hen-day basis?

- a. at least 400 bushels allowing for wastage
- b. 286 bushels
- c. 782 bushels
- d. 160 bushels

b based on C-3, 161, 175 & 177

$125,000 \times 0.75 = 93,750$ eggs / 12 = 7,812.5 dozen eggs
 $7,812.5 \text{ dozen} \times 3.01 \text{ lbs.} = 23,516 \text{ lbs. of feed}$
 $23,516 \text{ lbs. of feed} \times .68 = 15,991 \text{ lbs. of corn}$
 $15,991 \text{ lbs. of corn} / 56 \text{ lbs. per bushel} = 285.55 \text{ bushels of corn}$