



2019 Meats Evaluation & Technology Career Development Event

Instructions: Carefully read each item and possible answers. Mark the best answer on the correct CDE form. Completely fill the chosen ovals to indicate your answer.

WRITTEN EXAM

1. What was enacted on June 30, 1906, to prevent the adulteration and mishandling of meat products?
 - a. Meat Inspection Act
 - b. Food, Drug & Cosmetic Act
 - c. Humane Slaughter Act
 - d. Wholesome Meat Act

(CEV Meat Science & Food Safety slide #11)

2. What does the acronym USDA stand for?
 - a. United States Department of Agriculture
 - b. United States Development of Agriculture
 - c. United States Department of Animals
 - d. United States Development Standards

(CEV Meat Science & Food Safety slide #12)

3. This method of slaughter is performed by handling and processing animals in accordance with the Quran and conforming to Islamic dietary laws.
 - a. Kosher
 - b. Captive Bolt Stunning
 - c. Halal
 - d. None of the above

(CEV Meat Science & Food Safety slide #20)

4. The first implementation of a HACCP system for food safety is credited to?
 - a. Kraft for the U.S. Army
 - b. Johnson & Johnson and the National Sanitation Foundation
 - c. Oklahoma State University
 - d. Pillsbury for NASA

(CEV Meat Science & Food Safety slide #21)

5. In what year did the FSIS release the Safe Food Handling Label, now required on all raw meat products?
- a. 1978
 - b. 1993
 - c. 1994
 - d. 2011

(CEV Meat Science & Food Safety slide #25)

6. Growth-promoting implants are approved for use to be placed in the ear of swine.
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #31)

7. Ractopamine hydrochloride and zilpaterol hydrochloride are examples of what?
- a. Beta-agonists
 - b. Growth hormones
 - c. Antioxidants
 - d. Cure accelerators

(CEV Meat Science & Food Safety slide #32)

8. Which of the following nutrients is NOT a major component of fresh meat?
- a. Water
 - b. Carbohydrates
 - c. Protein
 - d. Fat

(CEV Meat Science & Food Safety slide #46)

9. _____ is an essential amino acid for children, but not adults.
- a. Isoleucine
 - b. Phenylalanine
 - c. Arginine
 - d. Valine

(CEV Meat Science & Food Safety slide #48)

10. Which is not a fat-soluble vitamin?
- a. A
 - b. C
 - c. D
 - d. K

(CEV Meat Science & Food Safety slide #50)

11. _____ fats contain only single bonds between carbon atoms, while _____ contain one or more double bonds between carbon atoms.
- a. Monounsaturated; Polyunsaturated
 - b. Monounsaturated; Saturated
 - c. Unsaturated; Saturated
 - d. Saturated; Unsaturated

(CEV Meat Science & Food Safety slide #50)

12. Lean Meat contains less fat than peanut butter, cheddar cheese or Swiss cheese.
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #57)

13. Muscles are comprised of thousands of basic muscle contractile units known as?
- a. Sarcomeres
 - b. Carbohydrates
 - c. Molecules
 - d. Fibers

(CEV Meat Science & Food Safety slide #60)

14. Meat varies in tenderness based on the muscle it is from?
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #60)

15. Actin is the primary contractile protein comprising the thick filament of the sarcomere.
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #60)

16. The “Brisket” primal comes from which species?
- a. Beef
 - b. Lamb
 - c. Pork
 - d. Poultry

(CEV Meat Science & Food Safety slide #63)

17. Which of the following is NOT considered a primal of beef carcasses?

- a. Side/Belly
- b. Loin
- c. Chuck
- d. Flank

(CEV Meat Science & Food Safety slide #63)

18. What regulatory standard describes a ham with less than 17% Protein Fat-Free (or PFF)?

- a. Ham Water Added
- b. Ham with Natural Juices
- c. Country-Cured Ham
- d. Ham & Water Product

(CEV Meat Science & Food Safety slide #69)

19. Which Government agency requires and oversees meat labeling?

- a. Livestock and Poultry Program
- b. Meat Grading and Certification
- c. Food and Drug Administration (FDA)
- d. Food Safety and Inspection Service (FSIS)

(CEV Meat Science & Food Safety slide #74)

20. Which of the following is NOT mandatory to be labeled on an FSIS-regulated meat product?

- a. Establishment Number
- b. Name and Address of Producer or Distributor
- c. Country of Origin
- d. Ingredient List

(CEV Meat Science & Food Safety slide #74)

21. Meat products derived from livestock raised on pasture and have received antibiotics can be considered "Certified Organic"?

- a. True
- b. False

(CEV Meat Science & Food Safety slide #83)

22. Maturity classes divide meat into categories based on age. In which species are maturity classes not used?

- a. Beef
- b. Lamb
- c. Pork
- d. All of the above utilize maturity classes

(CEV Meat Science & Food Safety slide #86)

23. Marbling is the small flecks of fat within the ribeye muscle.

- a. True
- b. False

(CEV Meat Science & Food Safety slide #91)

24. What is examined for determination of degrees of marbling in beef carcasses?

- a. Round
- b. Ribeye
- c. Loin eye
- d. Feathering

(CEV Meat Science & Food Safety slide #91-93)

25. A lamb carcass with two spool joints would be classified as a _____.

- a. Lamb
- b. Ram
- c. Young mutton
- d. Mutton

(CEV Meat Science & Food Safety slide #96)

26. From a safety point of view, it is okay to consume or re-freeze raw meat that has been stored at room temperature for more than two hours.

- a. True
- b. False

(CEV Meat Science & Food Safety slide #113)

27. Which practice is NOT listed on the USDA-FSIS Safe Handling Instructions?

- a. Keep refrigerated or frozen
- b. Wash raw meat before cooking
- c. Thaw in a refrigerator or microwave
- d. Cook thoroughly
- e. Keep hot foods hot

(CEV Meat Science & Food Safety slide #115)

28. Select the preferred method to thaw frozen meat.

- a. Submersing in warm water
- b. On a window sill
- c. In a refrigerator
- d. In a bowl on the kitchen counter

(CEV Meat Science & Food Safety slide #118)

29. Ground meat should be refrigerated quickly and used within _____ days of purchase?
- a. 2
 - b. 5
 - c. 10
 - d. 14

(CEV Meat Science & Food Safety slide #120)

30. Meat can be cooked directly from a frozen state without first being defrosted.
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #121)

31. It is better and safer to handle leftover meats by _____.
- a. Refrigerating quickly and letting the product cool at a fast rate
 - b. Refrigerating slowly and letting the product cool at a slow rate
 - c. Discarding all leftovers
 - d. Feeding them to pets

(CEV Meat Science & Food Safety slide #122)

32. Proper freezing of meat should be at a temperature at or below _____.
- a. 0 degrees Fahrenheit
 - b. 0 degrees Celsius
 - c. 0 degrees Centigrade
 - d. 32 degrees Fahrenheit

(CEV Meat Science & Food Safety slide #124)

33. Which of these is NOT considered a dry cooking method?
- a. Broiling
 - b. Braising
 - c. Grilling
 - d. Smoking

(CEV Meat Science & Food Safety slide #133)

34. Which of the following cuts would be best suited for braising?
- a. Chuck shoulder pot roast
 - b. Top loin steak
 - c. Ribeye steak
 - d. Tenderloin steak

(CEV Meat Science & Food Safety slide #148)

35. Which of the following is a correct statement regarding the labeling of processed meats?
- a. All ingredients must be listed by level of protein.
 - b. All ingredients must be listed in order of decreasing weight
 - c. All ingredients do not have to be approved by FSIS
 - d. All ingredients must be listed in order of increasing weight

(CEV Meat Science & Food Safety slide #154)

36. Variety meats may be included in cold cuts even if they are not listed on the label.
- a. True
 - b. False

(CEV Meat Science & Food Safety slide #155)

37. Finished frankfurters shall not contain more than _____ % fat.
- a. 30
 - b. 25
 - c. 40
 - d. 15

(CEV Meat Science & Food Safety slide #156)

38. Skeletal Meat is defined as the edible muscle tissue of an animal attached to the bone. Which is not considered a skeletal muscle?
- a. Brisket
 - b. Shoulder steak
 - c. Tripe
 - d. Rump roast

(CEV Meat Science & Food Safety slide #157)

39. _____ is defined as “any substance with the intended use of which results or may reasonably be expected to result – directly or indirectly – in its becoming a component or otherwise affecting the characteristics of any food”.
- a. Antimicrobial
 - b. Food Additive
 - c. Letter of assurance
 - d. Processing aid

(CEV Meat Science & Food Safety slide #158)

40. Which was one of the first food additives to change taste and preserve foods?

- a. Salt
- b. Red pepper
- c. Thyme
- d. Coriander

(CEV Meat Science & Food Safety slide #159)

41. Sodium nitrite is well known for preventing the growth of _____?

- a. *Norovirus*
- b. *Aspergillus spp.*
- c. *Listeria monocytogenes*
- d. *Clostridium botulinum*

(CEV Meat Science & Food Safety slide #160)

42. Ascorbic acid is used as an antioxidant in processed meats. Ascorbic acid is also known as _____?

- a. STPP
- b. Vitamin C
- c. Vitamin E
- d. Vitamin B9

(CEV Meat Science & Food Safety slide #162)

43. Which is not considered a natural flavor additive for processed meats?

- a. Garlic
- b. Celery
- c. Onion
- d. Artificial sweeteners

(CEV Meat Science & Food Safety slide #166)

44. Which additive is not considered a meat tenderizer?

- a. Papain
- b. Erythorbate
- c. Ficin
- d. Bromelain

(CEV Meat Science & Food Safety slide #169)

45. _____ is an ingredient used to retard mold growth on the outside of certain processed meat products.

- a. Dehydration
- b. Sodium erythorbate
- c. Potassium sorbate
- d. Di-hydrogen monoxide

(CEV Meat Science & Food Safety slide #170)

46. Which of the following is not one of the seven principles of HACCP?

- a. Conduct a hazard analysis
- b. Identify critical control points
- c. Recognize potential failures
- d. Establish corrective actions

(CEV Meat Science & Food Safety slide #177)

47. In HACCP systems, the term CCP refers to _____.

- a. Critical control parameters
- b. Critical control points
- c. Cautionary control points
- d. Crucial control points

(CEV Meat Science & Food Safety slide #177)

48. Proper cooking is a method to minimize food-bacteria.

- a. True
- b. False

(CEV Meat Science & Food Safety slide #178)

49. What is the most common cause of foodborne illness?

- a. Unsanitary harvest facilities
- b. Mishandling of food
- c. Lapse in HACCP documentation
- d. Unhealthy live animal prior to harvest

(CEV Meat Science & Food Safety slide #183)

50. Which foodborne pathogen is known to cause miscarriage in pregnant women?

- a. *E. coli* O157:H7
- b. *Listeria monocytogenes*
- c. *Salmonella*
- d. *Staphylococcus aureus*

(CEV Meat Science & Food Safety slide #191)



Meats Evaluation & Technology Career Development Event

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WRITTEN EXAM KEY (2 POINTS EACH)

Question	Answer	Slide #	Standard	Standard	Standard	Standard	Standard
1.	A	11	FPP.04.02.01.B	FPP.04.01.01.B	FPP.03.03.02.a		
2.	A	12	FPP.04.01.01.b				
3.	C	20	FPP.04.02.01.b	FPP.04.01.03.b	FPP.04.01.01.b	FPP.03.03.03.c	
4.	D	21	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.02.a	FPP.03.02.03.a	
5.	C	25	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.02.a	FPP.03.02.03.a	
6.	B	31	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.02.a		
7.	A	32	FPP.04.02.01.b	FPP.03.03.02.a			
8.	B	46	FPP.04.01.01.b	FPP.03.03.03.c			
9.	C	48	FPP.02.01.02.b				
10.	B	50	FPP.02.01.02.b				
11.	D	50	FPP.02.02.01.a				
12.	A	57	FPP.04.01.02.c	FPP.03.03.03.c			
13.	A	60	AS.06.02.03.a				
14.	A	60	FPP.04.01.02.c	FPP.03.03.03.c	FPP.03.03.02.a		
15.	B	60	AS.06.02.03.a				
16.	A	63	FPP.03.03.02.a				
17.	A	63	FPP.03.03.02.a				
18.	D	69	FPP.04.02.01.b	FPP.04.01.02.c	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a
19.	D	74	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
20.	C	74	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
21.	B	83	FPP.04.02.01.b	FPP.04.01.02.c	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a
22.	C	86	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a		
23.	A	91	FPP.03.03.03.c	FPP.03.03.02.a			
24.	B	91	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a		
25.	D	96	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a		

WRITTEN EXAM KEY

Question	Answer	Slide #	Standard	Standard	Standard	Standard	Standard
26.	B	113	FPP.03.02.03.a				
27.	B	115	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
28.	C	118	FPP.03.02.03.a				
29.	A	120	FPP.03.02.03.a				
30.	A	121	CS.03.01.01.b.				
31.	A	122	FPP.03.02.03.a				
32.	A	124	FPP.03.03.02.a				
33.	B	133	FPP.03.02.03.a				
34.	A	148	FPP.03.02.03.a				
35.	B	154	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
36.	B	155	FPP.03.03.03.c	FPP.03.03.02.a			
37.	A	156	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
38.	C	157	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	
39.	B	158	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
40.	A	159	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a
41.	D	160	FPP.03.03.02.a	FPP.03.02.03.a			
42.	B	162	FPP.03.03.03.c	FPP.03.03.02.a	FPP.03.02.03.a		
43.	D	166	FPP.04.02.01.b	FPP.04.01.02.c	FPP.04.01.01.b	FPP.03.03.03.c	FPP.03.03.02.a
44.	B	169	FPP.03.03.02.a				
45.	C	170	FPP.03.03.02.a	FPP.03.02.03.a			
46.	C	177	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.02.a		
47.	B	177	FPP.04.02.01.b	FPP.04.01.01.b	FPP.03.03.02.a		
48.	A	178	CS.03.01.01.b.	FPP.01.01.b.			
49.	B	183	CS.03.01.01.b.	FPP.01.01.b.			
50.	B	191	CS.03.01.01.b.	FPP.01.01.b.			

2021
NATIONAL FFA MEATS EVALUATION CDE
WRITTEN EXAM

1. Which species is NOT included in the Humane Slaughter Act?
 - a. Cattle
 - b. Horses
 - c. Mules
 - d. Bison

Slide 15

2. Which of the following programs is NOT voluntary for meat plants?
 - a. Uniform Retail Meat Identity Standards
 - b. Packers and Stockyards act
 - c. USDA Quality Grading
 - d. All of the above are voluntary

Slides 18 & 90

3. Why are non-ambulatory or “downer” cattle not allowed to be harvested for consumption?
 - a. Humane handling concerns
 - b. Lack of equipment to move animals
 - c. Microbial food safety concerns
 - d. Bovine Spongiform Encephalopathy

Slide 40

4. Hams are classified into regulatory labeling standards using which parameter?
 - a. Protein Fat-Free (PFF)
 - b. Fat-Free Lean (FFL)
 - c. Percent Lean Meat (PLM)
 - d. Total Fat Percent (TFP)

Slide 69

5. What is the recommended minimum internal temperature for ground beef?
 - a. 130 F
 - b. 140 F

c. 145 F

d. 160 F

Slides 129, 178, 193

6. While trichinosis is extremely rare in the U.S., what is the minimum internal temperature required to kill *Trichinella spiralis* parasite in pork?

a. 145 F

b. 160 F

c. 165 F

d. 180 F

Slide 130

7. Which foodborne bacteria can have its growth inhibited or prevented by the use of nitrite in meats?

a. E. coli

b. Salmonella

c. Clostridium botulinum

d. Listeria monocytogenes

Slides 160, 164, 187

8. What is the order if ingredients listed on a processed meats label (slide 154)?

a. By weight in decreasing order

b. Alphabetical

c. By weight in increasing order

d. By order of incorporation into brine

9. What type of meat is defined by the USDA as the edible muscle tissue of an animal attached to the bone (slide 157)?

a. Organ meat

b. Smooth muscle

c. Skeletal meat

d. Nervous tissue

10. Why are antioxidants used in processed meat products (slide 161)?

a. To prevent rancidity

b. To reduce fat content

c. To increase fat content

d. To bind water

11. What are bacteria used for fermentation to create flavor and impart certain properties in processed meats (slide 171)?
- a. Competitive inhibitors of foodborne pathogens
 - b. Environmental bacterial load
 - c. Starter Cultures
 - d. None of the above
12. What are the functions of nitrite in processed meats (slide 164)?
- a. contributes to the characteristic flavor and texture of processed meat products
 - b. corrects and preserves meat color
 - c. inhibits the growth of Clostridium botulinum
 - d. All of the above
13. What additive retards mold growth in dry sausages (slide 170)?
- a. Potassium Sorbate
 - b. Water
 - c. Spices
 - d. Sodium Chloride
14. What additive increases water holding capacity of the processed meat product, resulting in a juicier final product (Slide 173)?
- a. Phosphate
 - b. Sugar
 - c. Water
 - d. Spices
15. This book was written by Upton Sinclair to expose the conditions of immigrant meat plant workers in Chicago, but brought attention to the conditions in meat processing plants.
- a. Socialist
 - b. The Meat Inspection Act
 - c. Silent Spring
 - d. The Jungle
- Slide 11
16. In an A maturity beef carcass, a Traces marbling score will result in a quality grade of _____.
- a. Standard +

- b. Select ⁺
- c. Choice ⁻
- d. Prime ⁰

Slide 94

17. The _____ gave the Secretary of Agriculture and the USDA authorization to regulate livestock marketing and meat packing; monitoring of scales and brands.

- a. The Packers and Stockyards Act
- b. The Meat Inspection Act
- c. The Pure Food and Drug Act
- d. The Delaney Clause

Slide 14

18. Which of the following information is NOT required on a nutritional label?

- a. Serving size
- b. Ingredients containing GMOs
- c. Calories per container
- d. Amount of total fat

Slide 23

19. Water is withheld from animals for _____ hours prior to slaughter.

- a. 1
- b. 12
- c. 48
- d. 0. Water is not withheld prior to slaughter

Slide 37

20. Fat is essential for the absorption of fat-soluble vitamins. What are the four fat soluble vitamins?

- a. A, B, C, D
- b. A, D, E, K
- c. B, C, D, K
- d. A, B-6, B-12, K

Slide 50

21. Meat from a sheep more than one year of age is known as _____.

- a. Lamb
- b. Venison

- c. Mutton
 - d. Chevron
- Slide 88

22. What is the time of onset for E. coli as a common foodborne illness?

- a. 12-24 hours
- b. 20-24 hours
- c. 3-4 days
- d. 10 days

Answer "C" slide 193

23. Which common foodborne illness is associated with canned meats and seafood as well as smoked and processed meat. Possible fatalities are associated with nausea, vomiting, fatigue, dizziness and headache.

- a. Trichinosis
- b. Botulism
- c. E. coli
- d. Staphylococcal aureus

Answer "B" slide 187

24. Which process of enhancing food safety does not alter the freshness or nutritional content, can be performed on fresh meats or processed meats, and does not result in radioactive food?

- a. Pasteurization
- b. Freezing
- c. Acidification
- d. Irradiation

Answer "D" slides 179/180

25. Which is not an "antioxidant" used to prevent rancidity in meat?

- a. BHA
- b. BHT
- c. Vitamin C
- d. Vitamin A

Answer "D" slide 161/162

26. _____ is the method of cookery that involves completely covering the meat with liquid and cooking extensively.

- a. Pot Roasting

- b. Stewing
- c. Stir Frying
- d. Pan Broiling

Answer "B" slide 149

27. Beef maturity classifications range from birth to several years of age. Which is defined as cattle/bovine with a live weight less than 700 lbs., strictly fed milk and grass and may have a yellow fat color?

- a. Short-Fed Beef
- b. Long-Fed Beef
- c. Baby Beef
- d. Stag

Answer "C" slide 87

28. When labeling meat, which is not a requirement?

- a. Product name
- b. Net weight statement
- c. Handling instructions
- d. Name of the butcher

Answer "D" slide 74

29. What chemical compound in the body's system is used to synthesize Vitamin D, create hormones, and form bile salts to aid in digestion of fats?

- a. Cholesterol
- b. Protein
- c. Bromelin
- d. Lecithin

Answer "A" slide 52

30. What is the prescribed period of time the meat animal must not have received any compound or drug pre-harvest? This will allow ample time for the drug to pass through the animal's system.

- a. Residual Period
- b. Withdrawal Period
- c. Processing Period
- d. Adulteration Period

Answer "B" slide 35

31. Ascorbic acid is used as an antioxidant in processed meats. Ascorbic acid is also known as _____?

- a. STPP
- b. Vitamin C
- c. Curing agent
- d. Curing accelerator

Slide 162

32. A _____ is defined as any substance with the intended use of which results in it becoming a component or otherwise affecting the characteristics of any food.

- a. Antimicrobial
- b. Food additive
- c. Letter of assurance
- d. Processing aid

Slide 158

33. Finished frankfurters shall not contain more than _____ % fat.

- a. 30
- b. 25
- c. 40
- d. 15

Slide 156

34. BHA and BHT are examples of which class of food additives or ingredients?

- a. Acidifiers
- b. Antioxidants
- c. Curing agents
- d. Peeling modifiers

Slide 161

35. When the color of a processed meat is "fixed" it is also referred to as?

- a. Frozen
- b. Cooked
- c. Blanched
- d. Cured

Slide 162, 163, 164

36. Sodium chloride is used in the manufacturing of which portion of cured and processed products?

- a. 15%
- b. 40%
- c. 75%
- d. Nearly all

Slide 167

37. Proper freezing of meat should be at a temperature at or below

- a. -10 degrees Fahrenheit
- b. 0 degrees Celsius
- c. 0 degrees Centigrade
- d. 32 degrees Fahrenheit

Slide 111

38. Freezing can deteriorate the quality of meat

- a. True
- b. False

Slide 107

39. Select the preferred method to thaw (defrost) frozen meat

- a. Submersing in warm water
- b. On a window sill
- c. In a refrigerator
- d. In a bowl on the kitchen counter
- e. In a gas oven

Slide 118

40. It is better and safer to handle leftover meats by

- a. Refrigerating quickly and letting the product cool at a fast rate
- b. Refrigerating slowly and letting the product cool at a slow rate
- c. Discarding any leftovers
- d. Feeding them to pets

Slide 122

41. When freezing cooked meat, the packaging used should

- a. Be solid and prevent light from contacting the surface of the meat
- b. Be tightly attached to the surface of the meat to prevent moisture loss

- c. Allow moisture to penetrate and come in contact with the surface of the meat
- d. Be clear or transparent to allow light to contact the surface of the meat

Slide 134

42. Ground beef and hamburger are the same item?

- a. True
- b. False
- c. Depends on which region of the country it is made.

Slide 68

43. Which method of defrosting or thawing frozen meat will result in the greatest loss of juiciness?

- a. Submersing in warm water
- b. Microwaving
- c. In a refrigerator
- d. In a bowl on the kitchen counter

Slide 119

44. Which practice is NOT listed on the USDA-FSIS Safe Handling Instructions?

- a. Keep refrigerated or frozen
- b. Wash raw meat before cooking
- c. Thaw in a refrigerator or microwave
- d. Cook thoroughly
- e. Keep hot foods hot

Slide 115

45. The term “freezer burn” refers to meat being frozen at too low of a temperature.

- a. True
- b. False

Slide 108

46. Growth promoting implants are permitted to be used in

- a. Turkeys
- b. Cattle
- c. Swine
- d. Chickens

Slide 31

47. Which of the following nutrients is NOT a major component of fresh meat?

- a. Water
- b. Carbohydrates
- c. Protein
- d. Fat

Slide 46

48. Muscles are comprised of thousands of basic muscle contractile units know as?

- a. Sarcomeres
- b. Carbohydrates
- c. Molecules
- d. Fibers

Slide 60

49. Which Government agency requires and oversees meat labeling?

- a. Livestock and Poultry Program (L&P)
- b. Meat Grading and Certification (AMS)
- c. Food and Drug Administration (FDA)
- d. Food Safety and Inspection Service (FSIS)

Slide 74

50. Which of the following is NOT considered a primal of the beef carcasses?

- a. Side/Belly
- b. Loin
- c. Chuck
- d. Flank

Slide 63, 64

2022
National FFA Meats Evaluation CDE
Written Exam

1. What is the minimum recommended internal cooking temperature for ground meats? (slide 129-130)
 - a. 130 F
 - b. 140 F
 - c. 145 F
 - d. 160 F
2. True or false, carcass maturity scores in beef are based on the actual chronological age of the animal recorded at the time of slaughter. (slide 91)
 - a. True
 - b. False
3. What are the functions of nitrite in processed meats (slide 164)
 - a. contributes to the characteristic flavor and texture of processed meat products
 - b. corrects and preserves meat color
 - c. inhibits the growth of Clostridium botulinum
 - d. All the above
4. Growth promoting implants are NOT approved for use in which species? (slide 31)
 - a. Swine
 - b. Cattle
 - c. Sheep
 - d. Approved for all the above
5. Which of the following determines the regulatory standard for ham, i.e., "Ham", "Ham, water added", "Ham with natural juices", etc.? (slide 69)
 - a. The amount of added water
 - b. Protein Fat-Free
 - c. The weight of the ham
 - d. All the above
6. True or false, non-ambulatory or "downer" cattle can be slaughtered for human or animal consumption if the USDA protocol is followed. (slide 40)
 - a. True
 - b. False
7. True or false, meat protein contains all 9 essential amino acids. (slide 45)
 - a. True
 - b. False

2022
National FFA Meats Evaluation CDE
Written Exam

8. Which live age separates lamb from mutton? (slide 88)
- a. 6 months
 - b. 9 months
 - c. 1 year
 - d. 2 years
9. Dietary fat is essential for absorption of which of the following vitamins? (slide 50)
- a. Vitamin A
 - b. Vitamin B
 - c. Vitamin C
 - d. None of the above
10. True or false, fat in beef, pork and veal is less than 50% saturated. (slide 51)
- a. True
 - b. False
11. True or false, the liver can produce 2-3 times more cholesterol than a person consumes. (slide 53)
- a. True
 - b. False
12. What is the basic muscle contractile unit? (slide 60)
- a. Sarcomere
 - b. Sarcoplasm
 - c. Sarcolemma
 - d. Sarcophile
13. Which of the following is NOT a primal cut in pork? (slide 64)
- a. Shoulder
 - b. Rib
 - c. Loin
 - d. Leg
14. What was the name of the book written by Upton Sinclair which brought attention to the conditions in meat processing plants, and eventually led to the Meat Inspection Act of 1906 (slide 11)
- a. The Forest
 - b. The Jungle
 - c. Where the Red Fern Grows
 - d. Old Yeller

2022
National FFA Meats Evaluation CDE
Written Exam

15. True or false, feed is withheld from livestock approximately 12 hours prior to slaughter to aid in evisceration and reduce the chance of visceral punctures? (slide 38)
- a. True
 - b. False
16. Which of the following is NOT required on a meat label by the FSIS? (slide 74)
- a. Establishment number
 - b. Inspection mark
 - c. Price per lb.
 - d. Handling instructions
17. A product labeled organic is most likely to be which of the following? (slide 82-84)
- a. Healthier
 - b. Safer
 - c. More humane
 - d. More expensive
18. What is an essential amino acid? (slide 48)
- a. An amino acid our bodies need more of than others
 - b. An amino acid that is hard to find in nature
 - c. An amino acid that makes us sick
 - d. An amino acid that cannot be produced by the human body
19. Yield grading is a measure of what? (slide 89)
- a. Quality
 - b. Cutability
 - c. Cleanliness
 - d. Safety
20. True or false, quality grading is a mandatory process paid for with tax dollars. (slide 90)
- a. True
 - b. False
21. True or false, the uniform retail meat identity standards, or URMIS, is a mandatory program to establish a single specific name for each retail cut. (slide 18)
- a. True
 - b. False

2022
National FFA Meats Evaluation CDE
Written Exam

22. Vegetarians are typically challenged maintaining sufficient levels of all but which of the following? (slide 55)
- a. Amino acids
 - b. Iron
 - c. Zinc
 - d. Cholesterol
23. In 1993, a major E. coli O157:H7 outbreak led to the industry wide testing for this organism in ground beef. Which fast food chain was this outbreak linked to? (slide 25)
- a. McDonald's
 - b. Jack in the Box
 - c. Wendy's
 - d. Burger King
24. Which of the following does NOT contribute to beef quality grade? (slide 91)
- a. Color
 - b. Maturity
 - c. Firmness
 - d. External fat
25. On a beef carcass with "A" maturity which of the following marbling scores would result in a grade of "Standard"? (slide 94)
- a. Small
 - b. Slight
 - c. Traces
 - d. None of the above
26. Which of the following is a USDA Quality grade of lamb? (slide 99)
- a. Select
 - b. Good
 - c. Standard
 - d. Commercial
27. True or false, bacteria will stop growing at refrigerated temperatures. (slide 103)
- a. True
 - b. False
28. Which of the following has the longest refrigerated shelf life? (slide 104-105)
- a. Bacon
 - b. Corned Beef
 - c. Hot Dogs
 - d. Summer Sausage

2022
National FFA Meats Evaluation CDE
Written Exam

29. True or false, rancidity is a sign that meat is no longer safe to eat and should be discarded immediately. (slide 107)
- a. True
 - b. False
30. Which is NOT a recommended way to defrost meat? (slide 118)
- a. Microwave oven
 - b. On the kitchen counter
 - c. Cold water
 - d. Refrigerator
31. Which is the quickest recommended method for defrosting meat? (slide 118)
- a. Microwave oven
 - b. On the kitchen counter
 - c. Cold water
 - d. Refrigerator
32. True or false, its best to let steaks reach room temperature before cooking. (slide 126)
- a. True
 - b. False
33. When cooking meat, which measurement should be monitored for food safety? (slide 28)
- a. Cooking Temperature
 - b. Internal temperature of the meat
 - c. Surface temperature of the meat
 - d. Outside Temperature
34. Prior to 2011, why wasn't fresh meat required to have nutritional info on the label? (slide 22)
- a. It is inspected by USDA, not FDA
 - b. Meat labeling laws pre-date the Nutritional Labeling Act
 - c. It is a single ingredient food
 - d. It doesn't have the required nutrients
35. Although a rare steak is 125 F, what is the USDA recommended internal temperature of whole muscle products? (slide 29)
- a. 130 F
 - b. 140 F
 - c. 145 F
 - d. 160 F

2022
National FFA Meats Evaluation CDE
Written Exam

36. Which is NOT a function of cholesterol in the body? (slide 52)
- a. Transport nutrients
 - b. Create hormones
 - c. Form bile salts to digest fats
 - d. Facilitate nerve transmission
37. Which of the following was NOT one of the four main impacts of the Meat Inspection Act of 1906? (Slide 12)
- a. Antemortem inspection of livestock before slaughter
 - b. Postmortem inspection of every carcass
 - c. Sanitary conditions of all meat processing facilities
 - d. Authorized the Food and Drug Administration (FDA) to monitor and inspect harvesting and processing operations
38. Dry cooking methods should be used for ____ cuts of meat, while moist cooking methods should be used for ____ cuts of meat. (slide 132)
- a. Tough, tender
 - b. Tough, tough
 - c. Tender, tough
 - d. Tender, tender
39. If a frankfurter contains 25% added water, how much fat may it contain? (slide 156)
- a. 5%
 - b. 10%
 - c. 15%
 - d. 30%
40. Which of the following are NOT exceptions to the Humane Methods of Slaughter Act? (slide 20)
- a. Organic
 - b. Kosher
 - c. Halal
 - d. All the above are exceptions
41. Food safety is the responsibility of _____. (slide 175)
- a. Consumer
 - b. Producer
 - c. Processor
 - d. All the above

2022
National FFA Meats Evaluation CDE
Written Exam

42. Which of the following is NOT one of the seven principles of HACCP? (slide 177)
- a. Conduct a hazard analysis
 - b. Identify critical control points
 - c. Approve paperwork through USDA inspector
 - d. Establish critical limits
43. What is the “danger zone”? (slide 182)
- a. 60 F to 160 F
 - b. 40 F to 140 F
 - c. 40 F to 160 F
 - d. 60 F to 140 F
44. Which of the following is not considered a vulnerable group to foodborne illness? (slide 184)
- a. Senior citizens
 - b. Pregnant women
 - c. High school students
 - d. Immuno-compromised
45. Which foodborne illness can be fatal, but is prevented using nitrites? (slide 187)
- a. E. coli
 - b. Botulism
 - c. Trichinosis
 - d. Listeriosis
46. What is the order if ingredients listed on a processed meats label (slide 154)?
- a. By weight in decreasing order
 - b. Alphabetical
 - c. By weight in increasing order
 - d. By order of incorporation into brine
47. Which agency does NOT monitor drug residues in livestock? (slide 36)
- a. USDA
 - b. CDC
 - c. FDA
 - d. EPA
48. Which is not an “antioxidant” used to prevent rancidity in meat? (slide 161-162)
- a. BHA
 - b. BHT
 - c. Vitamin C
 - d. Vitamin A

2022
National FFA Meats Evaluation CDE
Written Exam

49. What is the prescribed period the meat animal must not have received any compound or drug pre-harvest? This will allow ample time for the drug to pass through the animal's system. (slide 35)
- a. Residual Period
 - b. Withdrawal Period
 - c. Processing Period
 - d. Adulteration Period
50. True or false, the federal or state inspection mark indicates quality, ensuring the consumer an enjoyable eating experience. (slide 17)
- a. True
 - b. False

2023 National FFA Meat Evaluation CDE

Written Exam

1. The Humane Slaughter Act was originally passed in 1958 to ensure the proper treatment and humane handling of animals; which of the following animals were not included? (slide 15)
 - a. Swine
 - b. Sheep
 - c. Horses
 - d. Cattle
 - e. Chickens
2. Meat is a complete source of protein, and contains how many essential amino acids? (slide 45)
 - a. 1
 - b. 3
 - c. 7
 - d. 9
 - e. 11
3. What is the minimum safe internal temperature of whole muscle beef products recommended by USDA? (slide 129)
 - a. 125°F
 - b. 130°F
 - c. 145°F
 - d. 160°F
 - e. 165°F
4. True/False: Fat found in beef, pork and veal is typically greater than 50% saturated fats. (slide 51)
 - a. True
 - b. False
5. What are synthetic chemicals which shift nutrients away from fat production to the promotion of lean muscle growth? (slide 32)
 - a. Beta-Agonists
 - b. Synthetic hormones
 - c. Implants
 - d. Antibiotics
 - e. Vitamins

6. True/False: The Wholesome Meat Act requires a federal USDA or state inspection mark, which is an indicator of meat quality. (slide 16 & 17)
- a. True
 - b. False
7. What compound aids in the repair and maintenance of body cells, and is responsible for body structure and chemical reactions essential to life? (slide 47)
- a. Protein
 - b. Water
 - c. Fat
 - d. Carbohydrates
 - e. Vitamins
8. What is the term for an amino acid that cannot be synthesized by the body, therefore they must be consumed from dietary sources? (slide 48)
- a. Synthetic
 - b. Supplement
 - c. Essential
 - d. Non-Essential
 - e. Hormone
9. Which act paved the way for creation of the Food and Drug Administration (FDA)? (slide 13)
- a. Meat Inspection Act
 - b. Pure Food and Drug Act
 - c. Packers and Stockyards Act
 - d. Wholesome Meat Act
 - e. Human Methods of Slaughter Act
10. Where are growth-promoting implants placed in swine? (slide 31)
- a. Intravenous
 - b. Neck
 - c. Ear
 - d. Hind Leg
 - e. Implants are not approved for usage in swine
11. True/False: Cholesterol can be produced by the body or can be obtained from dietary sources? (slide 53)
- a. True
 - b. False

12. Which government agency approves antibiotics for the use in livestock and sets the withdrawal periods? (Slide 34)
- a. FSIS
 - b. FDA
 - c. USDA
 - d. AMS
13. How long prior to harvest should feed be withheld from an animal to aid in evisceration? (slide 38)
- a. 1 hour
 - b. 12 hours
 - c. 24 hours
 - d. 48 hours
 - e. Feed should not be withheld
14. Which of the following hormones used in growth-promoting implants is not a natural hormone? (slide 30)
- a. Estradiol
 - b. Progesterone
 - c. Testosterone
 - d. Trenbolone Acetate
15. Triglycerides that contain no double bonds would be classified as a ____ fat. (slide 50)
- a. Monounsaturated
 - b. Polyunsaturated
 - c. Saturated
 - d. Polysaturated
16. What is Vitamin B₃ also commonly known as? (slide 54)
- a. Niacin
 - b. Biotin
 - c. Riboflavin
 - d. Thiamine
 - e. Folic Acid
17. A marbling score of Moderate⁵⁰ would result in what quality grade for a “A” maturity beef carcass? (Slide 94)
- a. Low Prime
 - b. High Choice
 - c. Average Choice

- d. Low Choice
- e. High Select

18. Which of the following is NOT a USDA Quality Grade for lamb? (slide 99)

- a. Good
- b. Select
- c. Choice
- d. Prime
- e. Cull

19. True/False: Re-Freezing meat causes no deterioration of quality as long as it is done correctly. (slide 113)

- a. True
- b. False

20. Which of the following organisms would be most likely to cause a food intoxication? (slide 185)

- a. *Salmonella* Newport
- b. *Clostridium botulinum*
- c. *E. coli* O157
- d. *Listeria monocytogenes*

21. USDA Yield Grades are a predictor of what valuable carcass attribute? (slide 89)

- a. Palatability
- b. Quality
- c. Weight
- d. Cutability
- e. Tenderness

22. Which of the following is NOT a primal cut of lamb? (slide 65)

- a. Shoulder
- b. Breast
- c. Rack
- d. Loin
- e. Round

23. The total weight of a food product, minus the weight of any packaging material, is commonly referred to which of the following? (slide 75)

- a. Total weight
- b. Pay weight
- c. Gross weight
- d. Net Weight
- e. Package Weight

24. What method of ritual slaughter follows Jewish dietary laws? (slide 20)
- a. Halal
 - b. Organic
 - c. Kosher
 - d. Gluten Free
 - e. Paleo
25. Deep fat frying would be considered what type of cookery method? (slide 133)
- a. Moist
 - b. Dry
 - c. Dry/Moist
26. The following represents the characteristics of meat labeled as “Natural”. (slide 85)
- a. Not administered antibiotics
 - b. Grass fed
 - c. Organic
 - d. Minimally Processed, No artificial ingredients
 - e. GMO free
27. All of the following are plant enzymes used to tenderize meat EXCEPT? (Slide 169)
- a. Bromelain
 - b. Ficin
 - c. Neotame
 - d. Papain
28. What is used to retard mold growth on the outside of dried sausages? (slide 170)
- a. Phosphates
 - b. Di-Glycerides
 - c. Isolated Soy Proteins
 - d. Lecithin
 - e. Potassium Sorbate
29. True/False: Over 12,000 species of Salmonella cause illness when ingested. (slide 190)
- a. True
 - b. False
30. True/False: Trichinella spiralis is a nematode worm. (slide 192)
- a. True
 - b. False
31. The “Brisket” primal comes from which species? (slide 63)
- a. Beef

- b. Lamb
- c. Pork
- d. Poultry

32. Which of the following is a correct statement regarding the labeling of processed meats?

(slide 154)

- a. All ingredients must be listed by level of protein.
- b. All ingredients must be listed in order of decreasing weight
- c. All ingredients do not have to be approved by FSIS
- d. All ingredients must be listed in order of increasing weight

33. Which of the following is not one of the seven principles of HACCP? (slide 177)

- a. Conduct a hazard analysis
- b. Identify critical control points
- c. Recognize potential failures
- d. Establish corrective actions
- e. Establish record keeping procedures

34. After a power outage, meat in the refrigerator is safe for 6 to 8 hours, unless meat temperature rises above _____ for more than 2 hours. (slide 112)

- a. 0°F
- b. 10°F
- c. 20°F
- d. 30°F
- e. 40°F

35. Which of the following is not a fat-soluble vitamin? (slide 50)

- a. Vitamin A
- b. Vitamin B
- c. Vitamin D
- d. Vitamin E
- e. Vitamin K

36. PFF is used in regulatory standards of hams, what does PFF stand for? (Slide 69)

- a. Percent Fat-Free
- b. Protein Fat-Free
- c. Pure Fat-Free
- d. Percent For Free
- e. Partially Fat-Free

37. What is another term for Cold Cuts? (slide 155)

- a. Cured meats
- b. Luncheon meats

- c. Meat by-products
- d. Variety meats
- e. Frozen Meat

38. When smoking meats, two thermometers are recommended. One thermometer is used to measure the internal temperature of the meat. What should the other thermometer measure? (slide 143)

- a. The air temperature of the smoker
- b. The surface temperature of the meat
- c. The internal temperature of the meat taken at a second location
- d. The temperature outside of the smoker

39. Which of the following is the most common cause of foodborne illness? (slide 183)

- a. Mishandling food
- b. Misidentifying meats
- c. Misreading labels
- d. Mistreating animals

40. All of the following are true about water in the meat industry EXCEPT? (slide 37)

- a. Water aids in evisceration
- b. Water is essential to all life processes
- c. Water makes hide removal more difficult
- d. Water must be provided to livestock through the life cycle until the point of harvest

41. Which type of meat cookery uses heated air circulated around the meat by a fan? (slide 136)

- a. Convection Oven
- b. Grilling
- c. Microwave Oven
- d. Smoking
- e. Roasting

42. Which of the following is the correct recommended refrigerated storage time? (slides 104-105)

- a. Fresh, Uncooked Beef, steaks = 6-8 days
- b. Frankfurters = 2-3 weeks
- c. Fresh, Uncooked Ground meats = 4-6 days
- d. Smoked Sausage = 1 week
- e. Bacon = 1-2 weeks

43. Which nutrient is used to synthesize Vitamin D, and form bile salts to aid in digestion of fats? (slide 52)

- a. Carbohydrate
- b. Fat
- c. Protein
- d. Water
- e. Cholesterol

44. True/False: Improperly cooked beef products have been commonly associated with Trichinosis. (slide 130)

- a. True
- b. False

45. True/False: If an antibiotic has been used to treat a disease, the animal will lose its organic status. (slide 83)

- a. True
- b. False

46. Which of the following was NOT a main impact of the Meat Inspection Act on the meat industry? (slide 12)

- a. Required state inspection of processing facilities to equal or exceed federal inspection standards
- b. Antemortem inspection of all livestock before slaughter
- c. Authorized the United States Department of Agriculture (USDA) to monitor and inspect all harvesting and processing operations
- d. Sanitary conditions in all meat processing facilities
- e. Postmortem inspection of every carcass

47. Muscles are comprised of thousands of basic muscle contractile units known as what? (slide 60)

- a. Myosin
- b. Actin
- c. Bundles
- d. Sarcomeres
- e. Primals

48. True/False: Ground Beef may contain added beef fat, up to 30% of the total. (slide 68)

- a. True
- b. False

49. What common meat packaging method removes almost all the air from the package? (slide 73)

- a. Modified Atmosphere Packaging
- b. Vacuum Packaging
- c. Overwrap

d. Dry Aging

50. What compounds are used to prevent rancidity as they reduce or prevent oxidation in food? (slide 161)

- a. Flavoring
- b. Tenderizers
- c. Phosphates
- d. Antioxidants
- e. Curing Agents



2025 NATIONAL FFA MEAT EVALUATION & TECHNOLOGY CAREER DEVELOPMENT EVENT

WRITTEN EXAMINATION KEY

Please mark all answers on the scan sheet.

1. Cholesterol is used to synthesize what compound?
 - a) Essential fatty acids
 - b) Essential amino acids
 - c) B vitamins
 - d) Vitamin D**
 - e) Folic Acid
2. What product date denotes the date by which product should be used and still be considered safe?
 - a) Best if Used By
 - b) Use By**
 - c) Sell by Date
 - d) Packaging Date
 - e) Production Date
3. Which of the following is NOT a USDA Quality Grade for lamb?
 - a) Good
 - b) Select**
 - c) Choice
 - d) Prime
 - e) Utility
4. Which of the following is an essential amino acid found in meat?
 - a) Valine
 - b) Threonine
 - c) Isoleucine
 - d) Lysine
 - e) All of the above**

5. USDA Yield Grades are a predictor of what valuable carcass attribute?
- a) Palatability
 - b) Confirmation
 - c) Weight
 - d) Cutability**
 - e) Tenderness
6. Fat contains how many kcal/gram of energy?
- a) 3
 - b) 5
 - c) 7
 - d) 9**
 - e) 11
7. Which of the following food animal growth promotants would be classified as a beta agonist?
- a) Trenbolone acetate
 - b) Estradiol benzoate
 - c) Ractopamine hydrochloride**
 - d) Melengestrol acetate
 - e) Monensin
8. Which of the following is not a factor used to evaluate the lean of a ribeye when Quality Grading.
- a) Degree of marbling
 - b) Texture
 - c) Firmness
 - d) Color
 - e) Flank fat streaking**
9. Safe handling instructions are required by what organization, to be on all raw meat and poultry product labels.
- a) USDA**
 - b) FDA
 - c) FSIS
 - d) FBI
 - e) Safe Handling is not required

10. "A" maturity beef carcasses may come from animals that are what age range?
- a) Less than 9 months of age
 - b) 9-30 months of age**
 - c) 30-42 months of age
 - d) 42-72 months of age
 - e) 72+ months of age
11. The temperature danger zone is between what range?
- a) 4°F and 60°F
 - b) 4°F and 140°F
 - c) 40°F and 60°F
 - d) 40°F and 140°F**
 - e) 60°F and 160°F
12. Food Safety is the responsibility of who?
- a) Processors
 - b) Producers
 - c) Consumers
 - d) All of the above**
 - e) None of the above
13. Meat is the best source of what kind of iron, which is the most readily absorbed form of Iron.
- f) Heme**
 - g) Non-heme
 - h) Aneme
 - i) Red
 - j) Meat is not a source of iron
14. The physiological age of lamb is determined by evaluating the joints of the front shank joints. If a carcass has 1 break joint, and 1 spool joint, how would that carcass be classified?
- a) Sheep
 - b) Lamb
 - c) Young Mutton**
 - d) Mutton
 - e) Adulterated

15. What does USDA stand for?
- a) United States Department of Animals
 - b) United States Development of Agriculture
 - c) United States Division of Agriculture
 - d) Unified System for Development of Agriculture
 - e) United States Department of Agriculture**
16. What does the USDA Inspection mark indicate?
- a) Wholesomeness**
 - b) Cutability
 - c) Quantity
 - d) Tastiness
 - e) Quality
17. Which red-meat species are not typically divided into maturity classes since most in the United States are harvested at approximately the same age?
- a) Beef
 - b) Pork**
 - c) Lamb
 - d) None of the Above
18. One ounce of cooked meat or poultry contains an average of how many grams of protein?
- a) 3
 - b) 5
 - c) 7**
 - d) 9
 - e) 11
19. What is the primary purpose of dry aging meat?
- a) Extend shelf life
 - b) Allow growth of beneficial bacteria
 - c) Improve color
 - d) Develop tenderness and flavor**
 - e) Improve cutability
20. True or False: It is best to defrost meat at room temperature.
- a) True
 - b) False**

21. Ground beef cannot legally contain more than what percentage of fat?
- a) 10
 - b) 20
 - c) 30**
 - d) 40
 - e) 50
22. What is the typical pH of blood?
- a) 6.5-6.75
 - b) 6.7-7.0
 - c) 7.35-7.45**
 - d) 7.5-7.75
 - e) 7.75-8.0
23. Residue levels which are the amounts of drug, antibiotic or hormone left behind in a product after the withdrawal period has passed are monitored by what agency?
- a) USDA
 - b) FSIS
 - c) FDA
 - d) EPA
 - e) All the Above**
24. Which of the following would represent the highest cutability lamb carcass?
- a) Yield Grade 1, Quality Grade Choice**
 - b) Yield Grade 2, Quality Grade Choice
 - c) Yield Grade 3, Quality Grade Prime
 - d) Yield Grade 4, Quality Grade Prime
 - e) Yield Grade 5, Quality Grade
25. Cholesterol is used for what function?
- a) Absorb fat-soluble vitamins
 - b) Form bile salts to aid in digestion of fats**
 - c) Aids in regulation of the water balance in the body
 - d) Strengthening the body's immune system
 - e) Help to build red blood cells

26. What compound is commonly used in the United States to prevent rancidity?
- a) Butylated Hydroxytoluene**
 - b) Sodium Nitrite
 - c) Sodium Chloride
 - d) Clostridium Botulinum
 - e) Dextrose
27. All of the following are plant enzymes used to tenderize meat EXCEPT?
- a) Bromelain
 - b) Ficin
 - c) Neotame**
 - d) Papain
 - e) All are used as tenderizers
28. Growth-Promoting implants are used in what species?
- a) Cattle
 - b) Poultry
 - c) Sheep
 - d) A and C**
 - e) Growth-Promoting implants are not allowed
29. Riboflavin is an example of what type of vitamin?
- a) A Vitamin
 - b) B Vitamin**
 - c) C Vitamin
 - d) D Vitamin
 - e) E Vitamin
30. True or False: Beef Quality Grading is a mandatory process by the USDA.
- a) True
 - b) False**
31. Which of the following is the thin myofilament in the muscle sarcomere?
- a) Actin**
 - b) Actosin
 - c) Bundle
 - d) Myosin
 - e) Muscle Fiber

32. Which of the following are examples of Dry Cooking Methods?
- a) Braising and/or Broiling
 - b) Stewing and/or Stir Frying
 - c) Deep Fat Frying and/or Grilling**
 - d) Poaching and/or Roasting
 - e) Boiling and/or Smoking
33. This important piece of legislation was enacted the same day as the Meat Inspection Act. It prohibited the sale, manufacture, and transportation of adulterated food products.
- a) Food and Drug Administration
 - b) Packers and Stockyards Act
 - c) Pure Food and Drug Act**
 - d) Wholesome Meat Act
 - e) Humane Slaughter Act
34. What is used to retard mold growth on the outside of dried sausages?
- a) Di-Glycerides
 - b) Isolated Soy Proteins
 - c) Lecithin
 - d) Potassium Sorbate**
 - e) Papain
35. Which species is the most commonly aged meat?
- a) Pork
 - b) Poultry
 - c) Lamb
 - d) Beef**
 - e) Fish
36. True or False: More than 80% of the lambs slaughtered in the United States grade USDA Choice or higher.
- a) True**
 - b) False

37. Which of the following is the most common cause of foodborne illness?
- a) Mishandling food**
 - b) Misidentifying meats
 - c) Misreading labels
 - d) Mistreating animals
 - e) None of the above
38. True or False: Hamburger may contain added beef fat.
- a) True**
 - b) False
39. Which type of meat cookery uses heated air circulated around the meat by a fan?
- a) Broiling
 - b) Convection Oven**
 - c) Grilling
 - d) Microwave Oven
 - e) Smoking
40. In order to aid in evisceration and reduce microbial contamination, feed is withheld from animals how many hours prior to slaughter?
- a) 6 hours
 - b) 12 hours**
 - c) 1 day
 - d) 2 days
 - e) Feed should not be withheld
41. True or False: Uniform retail meat identity standards were implemented in 1973. This established a single, specific name for each basic retail cut.
- a) True**
 - b) False
42. What was one of the first food additives to change the taste and preserve foods?
- a) Iron
 - b) Cure
 - c) Salt**
 - d) Antioxidant
 - e) Artificial Smoke

43. What is the best way of determining when a roast is properly done while cooking?
- a) Cook until evenly brown and firm
 - b) Base cooking time off recipe
 - c) Taste test throughout cooking
 - d) Use a calibrated meat thermometer**
44. Which of the following is NOT a natural, gender-based hormone found in livestock?
- a) Estradiol
 - b) Progesterone
 - c) Trenbolone acetate**
 - d) Testosterone
 - e) All of the above are nature hormones
45. True or False: Live animal care has a significant impact on cutability and meat quality.
- a) True**
 - b) False
46. A Chuck Roll is an example of what cut
- a) Primal
 - b) Subprimal**
 - c) Wholesale
 - d) Retail
 - e) Carcass
47. Vacuum packaging is a common retail packaging method, which of the following is NOT attributed to occurring with vacuum packaging?
- a) Eliminates almost all air from the package
 - b) Causes fresh meat to appear dark until exposed to air
 - c) Results in a distinct odor after opening which quickly dissipates
 - d) Increases length of time meat can be kept
 - e) Uses mixes of carbon dioxide, oxygen and other inert gases**

48. What is the definition of Net Weight?
- a) The total weight of the food product, minus the weight of the packaging materials**
 - b) The total weight of the food product, including the weight of the packaging materials
 - c) The live weight of a carcass, minus the hot carcass weight
 - d) The live weight of a carcass, minus the dressing percentage
49. True or False: Bacteria will continue to grow at refrigerated temperatures.
- a) True**
 - b) False
50. Which of the following is NOT a fat-soluble vitamin?
- a) Vitamin A
 - b) Vitamin C**
 - c) Vitamin D
 - d) Vitamin E
 - e) Vitamin K