

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DEGREE IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2015

TITLE OF PAPER : MEAT HYGIENE

COURSE CODE : EHM 304

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- : ANSWER ONLY FOUR QUESTIONS
- : QUESTION ONE IS COMPULSORY
- : EACH QUESTION CARRIES 25 MARKS.
- : WRITE NEATLY
- : BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR.

Question 1

Multiple choice questions:

Choose the most appropriate answer;

1. Which lymph node drains the skin, prepuce, and surface muscles and the lymph destination is the internal iliac node.
 - A. superficial inguinal
 - B. parotid
 - C. prescapular
 - D. popliteal
 - E. precrural

2.lymph node drains the head, neck, shoulder, and forelimb.
 - A. Superficial inguinal
 - B. parotid
 - C. prescapular
 - D. popliteal
 - E. precrural

3. Silverside meat in beef refers to the meat surrounding which bone;
 - A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones

4. Aitch and rump in beef refers to meat surrounding which bone;
 - A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones

5. Brisket meat in beef refers to meat surrounding which bone;
 - A. Tibia bone
 - B. Fibula bone
 - C. Femur bone
 - D. Sternum bones
 - E. Pelvic bones

6. If a food animal has a high stearin fatty acid, the resultant fat will be;
 - A. A firm texture
 - B. An oily texture
 - C. A yellow color
 - D. A white color
 - E. Water like texture

7. Which one of the statements is **not true**?
- A. Saturated fats are commonly solid at room temperature
 - B. Unsaturated fats are commonly liquid at room temperature
 - C. Double bonds in fatty acids increases the melting point in fats
 - D. Double bonds in fatty acids decreases the melting point in fats
 - E. Double bonds in fatty acids do not have any effects
8. The positional term, posterior refers to;
- A. nearer the head
 - B. nearer the back
 - C. nearer the tail
 - D. nearer the front
 - E. nearer the central line
9. In cattle, the site of shooting during stunning of animals is;
- A. the point on the forehead at the intersection of two lines drawn from the base of the horns to the eyes on the opposite side
 - B. the center of the forehead between the ears
 - C. about 1.5 cm above the level of the eyes in the mid line
 - D. you take precaution and place the pistol in the middle of the fore-head
 - E. you can place it anywhere on the fore-head
10. What is a virgin female in cattle known as?
- A. Ewe
 - B. Gimmer
 - C. Heifer
 - D. Sow
 - E. Steer
11. Meat from a freshly killed ox carcass usually has a pH of 6.5 to 6.8 but after 48 hours it is expected to be;
- A. 6.5
 - B. 6.0
 - C. 5.5
 - D. 5.0
 - A. 4.5
12. Dark cuts in beef meat are an indication of;
- A. high pH
 - B. acidic pH
 - C. neutral pH
 - D. low pH
 - E. Both A and C

13. Myoglobin is a complex protein that;
- A. carries oxygen in the red muscles
 - B. removes oxygen from red muscles
 - C. stores oxygen in the red muscles
 - D. carries oxygen in the white muscles
 - E. carries nutrients to the red muscles
14. During meat inspection in the abattoir, you find that the serous membrane has attached on the lung tissue, such condition is known as;
- A. serousy
 - B. peritonitis
 - C. epicarditis
 - D. pleurisy
 - E. pleuritis
15. If then, the serous membrane has attached on the liver, such condition will be known as;
- A. serousy
 - B. peritonitis
 - C. epicarditis
 - D. pleurisy
 - E. pleuritis
16. The liver, pancreas, and duodenum are drained by which lymph node (s);
- A. mediastinals
 - B. bronchials
 - C. hepatic or portal
 - D. renal
 - E. mesenteric
17. The heart, thoracic wall, lungs, diaphragm, peritoneum, surface of liver and spleen, muscles of the shoulder and forelimbs are drained by the;
- A. mediastinals lymph nodes
 - B. bronchials
 - C. hepatic or portal
 - D. renal
 - E. Mesenteric
18. A deflowered **female dog** is known as;
- A. Bitch
 - B. Hogg
 - C. Ewe
 - D. Sow
 - E. Cow

19. Ruminants have four distinct stomachs and the stomach that is known as the 'bible' is;
- A. reticulum
 - B. abomasum
 - C. rumen
 - D. omasum
 - E. true stomach
20. The **spleen of cattle** is;
- A. flat and sickle shaped and bluish in color
 - B. elongated tongue shaped, reddish in color and triangular in cross-section and longitudinal ridge with fat-filled omentum attached
 - C. oyster shaped, soft and elastic to touch, reddish-brown in color
 - D. elongated oval shape, white lymph follicles (malpighian corpuscles) which are easily seen on cross-section
 - E. elongated tongue shape, white lymph follicles (malpighian corpuscles) which are easily seen on cross-section
21. The **spleen of pig** is;
- A. flat and sickle shaped and bluish in color
 - B. elongated tongue shaped, reddish in color and triangular in cross-section and longitudinal ridge with fat-filled omentum attached
 - C. oyster shaped, soft and elastic to touch, reddish-brown in color
 - D. elongated oval shape, white lymph follicles (malpighian corpuscles) which are easily seen on cross-section
 - E. elongated tongue shape, white lymph follicles (malpighian corpuscles) which are easily seen on cross-section
22. **Chuck meat** refers to the;
- A. inner side of the thigh, part of the quadriceps
 - B. patella, quadriceps femoris. knee fold of panniculus, rectus and transverse abdominis and tendinous sheets of oblique abdominals
 - C. sacrum and wing of ilium. psoas and gluteus muscles
 - D. pubis and the trochanters and half of the head of the femur. the upper ends of the gluteus muscle, biceps femoris, quadriceps.
 - E. part of the scapula, supra spinatus, infra spinatus, trapezius rhomboid, deltoid, triceps
23. Which group of bones are found in the hind limb in cattle?
- A. scapula, humerus, shin, ulna, carpus, and shank.
 - B. humerus, radius, shoulder blade, knee, and metatarsus
 - C. femur, cramp bone, tibia, thin silver bone, and hock joint
 - D. tibia, fibula, patella, tarsus, and femur.
 - E. femur, humerus, ulna, tibia and digits

24. Which group of bones are found in the forequarter of cattle?
- A. scapula, humerus, shin, ulna, carpus, and shank.
 - B. humerus, radius, shoulder blade, knee, and metatarsus
 - C. femur, cramp bone, tibia, thin silver bone, and hock joint
 - D. tibia, fibula, patella, tarsus, and femur.
 - E. femur, humerus, ulna, tibia and digits
25. Which of the following statements is **not correct** in relation to the heart?
- A. The tricuspid valve is located between the right auricle and the right ventricle
 - B. The mitral valve is located between the left auricle and the left ventricle
 - C. The right ventricle is more muscular and thick walled because it pumps blood throughout the whole body
 - D. The ventricles have thick walled and are larger than the auricles in dead animals
 - E. Pulmonary veins carries arterial blood and pulmonary artery carries venous blood

[25 Marks]

Question 2

- a. Why carcass lymph nodes are examined during meat inspection. [5]
- b. In food animal's species, the fats consistency, and color are different for different animals. Using appropriate examples, explain why that is so. [6]
- c. Describe the features in cattle that can be used for differentiating between a female or male carcass. [5]
- d. Describe the differences in the lung for cattle, pig and goat. [9]

[25 Marks]

Question 3

- a. Describe the hormonal digestion of food in cattle. [10]
- b. During meat inspection, explain why the liver may be found to have high fat deposits while the carcass meat or muscles are devoid of fats. [3]
- c. With appropriate examples, discuss the importance of meat inspection. [8]
- d. Some food animals may develop a condition known as asthma. What is asthma? [4]

[25 Marks]

Question 4

- a) Explain the measures necessary to ensure a good keeping quality of stored meat. [10]
- b) Explain why cattle are seen chewing when resting during the day. [4]
- c) How can the teeth be used? [8]
- d) Give the two (2) salts that are found in goat bile. [3]

[25 Marks]

Question 5

- a) The condition and quality of meat will depend mainly on the care given to the animal prior to slaughter.

Discuss the following features in relation to meat quality and safety.

- ii) Resting [5]
 - iii) Fasting [5]
 - iv) Watering [3]
 - v) Withdrawal of antibiotics [2]
 - vi) Traceability [5]
- b) Differentiate a carcass from a sick or a health cattle animal? [5]

[25 Marks]