

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2008

TITLE OF PAPER : MEAT HYGIENE

COURSE CODE : EHS 103

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- : ANSWER ANY 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 nodes are located between the hyoid bones and beneath each wing of the atlas and they drain the pharynx, tongue, and larynx?
 - A. retropharyngeal
 - B. parotid
 - C. prescapular
 - D. suprasternal
 - E. precrural

2. Which lymph node is located at least 10 cm front of the point of the shoulder and it drains the head, neck, shoulder, and forelimbs?
 - A. retropharyngeal
 - B. parotid
 - C. prescapular
 - D. suprasternal
 - E. precrural

3. The liver, pancreas, and duodenum are drained by the;
 - A. mediastinal lymph nodes
 - B. bronchials
 - C. hepatic or portal
 - D. renal
 - E. mesenteric

4. The heart, thoracic wall, lungs, diaphragm, peritoneum, surface of liver and spleen, muscles of the shoulder and forelimbs are drained by the;
 - A. mediastinal lymph nodes
 - B. bronchials
 - C. hepatic or portal
 - D. renal
 - E. mesenteric

5. **Rump 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

6. **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
7. **Topside meat** refers to the;
- A. inner side of the thigh, part of the quadriceps
 - B. patella, quadriceps femoris. Knee fold 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
8. The pH of a recent slaughtered cattle carcass is 6.5 to 6.8 but after 48 hours it is expected to be;
- A. 7.5
 - B. 6.5
 - C. 6.0
 - D. 5.5
 - E. 5.0
9. Which **one** of the statements is **not true**?
- A. Volatile oils in the fat of mammals give the fat and red muscle their flavor and aroma
 - B. Volatile oils are absent from white and heart muscles, such meats are comparatively tasteless and therefore require strong flavored herbs
 - C. Volatile oils are also absent from meat that has been stored for a long time or overcooked
 - D. Unsaturated fats are commonly liquid at room temperature
 - E. Double bonds in fatty acids increase the melting point in fats

16. What species is a **goat**?
- A. Bovine
 - B. Ovine
 - C. Porcine
 - D. Equine
 - E. Both A and B
17. A deflowered **female pig** is known as;
- A. Gilt
 - B. Heifer
 - C. Ewe
 - D. Sow
 - E. Cow
18. A deflowered **female sheep** is known as;
- A. Gilt
 - B. Heifer
 - C. Ewe
 - D. Sow
 - E. Cow
19. An entirely **male sheep** is known as;
- A. Bull
 - B. Boar
 - C. Ram
 - D. Ox
 - E. Hogg
20. An entirely **male pig** is known as;
- A. Bull
 - B. Boar
 - C. Ram
 - D. Ox
 - E. Hogg
20. The **goat's kidneys** are;
- A. bean shaped , renal pelvis present and (one renal papillae) have no lobules
 - B. left kidney is pyramid shaped, floating, whereas the right is fixed and both kidneys are lobulated (15-25 renal papillae) and have no renal pelvis
 - C. smooth bean shaped but thinner and flatter than the other animals and both kidneys are immovable
 - D. the right kidney is triangular or heart shaped and the left is bean shaped; both kidneys are immovable and nonlobulated
 - E. the right kidney is bean shaped and the left kidney is heart shaped, both kidneys are freely floating and nonlobulated

21. The **sheep's kidneys** are;
- A. bean shaped , renal pelvis present and (one renal papillae) have no lobules
 - B. left kidney is pyramid shaped, floating, whereas the right is fixed and both kidneys are lobulated (15-25 renal papillae) and have no renal pelvis
 - C. smooth bean shaped but thinner and flatter than the other animals and both kidneys are immovable
 - D. the right kidney is triangular or heart shaped and the left is bean shaped; both kidneys are immovable and nonlobulated
 - E. the right kidney is bean shaped and the left kidney is heart shaped, both kidneys are freely floating and nonlobulated
22. The **pig's kidneys** are;
- A. bean shaped , renal pelvis present and (one renal papillae) have no lobules
 - B. left kidney is pyramid shaped, floating, whereas the right is fixed and both kidneys are lobulated (15-25 renal papillae) and have no renal pelvis
 - C. smooth bean shaped but thinner and flatter than the other animals and both kidneys are immovable
 - D. the right kidney is triangular or heart shaped and the left is bean shaped; both kidneys are immovable and nonlobulated
 - E. the right kidney is bean shaped and the left kidney is heart shaped, both kidneys are freely floating and nonlobulated
23. 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
24. 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

25. The **spleen of sheep** 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

[25 Marks]

Question 2

- a. After the animal has been slaughtered in the abattoir, the muscles of the carcass becomes stiff and hard, and the fat firm. Why is that so? [6]
- b. Explain the factors that influence the fat texture firmness and the color of fat in slaughtered animals. [10]
- c. Explain the factors that may influence the onset of rigor mortis in beef carcass. [5]
- d. What measures are necessary in ensuring that the slaughtered carcass is safe for human consumption? [4]

[25 Marks]

Question 3

- a. Using a line diagram, explain the blood circulation in food animals [13]
- b. Explain the function of the trachea in relation to respiration. [5]
- c. What do you understand about the condition known as asthma? [3]
- d. How would you differentiate the trachea of sheep from that of pig? [4]

[25 Marks]

Question 4

- a) Describe the process food absorption in the small intestines in ruminants. [6]
- b) Why starving cattle would accumulate fat in the liver? [4]
- c) Using appropriate examples discuss the enzymatic and hormonal digestion of food in cattle? [15]

[25 Marks]

Question 5

- a. What do you understand by pre-slaughter care in food animal? [10]
- b. How does pre-slaughter care influence the meat quality? [10]
- c. Why is the stunning of the animals during the slaughtering process of importance? [5]

[25 Marks]