

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2007

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 question:

Choose the most appropriate answer;

1. Which one of these statements is not an objective of meat inspection:
 - A. To prevent the marketing or sale of meat which contains antibiotics or hormones which may have an adverse effects on the human health.
 - B. To prevent the sale of meat which is obnoxious(unaesthetic meat) to the consumer.
 - C. To protect the public from diseases which might occur from eating diseased meat.
 - D. To assist the sale and consumption of meat by the public
 - E. To ensure humane slaughter.

2. In pigs de-coloration of the skin may be due to:
 - A. Swine fever or Swine erysipelas
 - B. Swine fever or Gangrenous pneumonia
 - C. Swine erysipelas or salmonellosis
 - D. Pig paratyphoid or Necrotic enteritis
 - E. Swine vesicular disease or Swine tuberculosis

3. Normal temperature of a healthy heifer is:
 - A. 37 to 38 degrees Celsius
 - B. 38 to 39 degrees Celsius
 - C. 39 to 40 degrees Celsius
 - D. 40 to 41 degrees Celsius
 - E. 41 to 42 degrees Celsius

4. Which lymph node is located on the edge of the masseter muscle and covered by the salivary gland, at least 3 cm in front of the ear.
 - A. retropharyngeal
 - B. parotid
 - C. prescapular
 - D. suprasternal
 - E. precrural

5. Which lymph node is located in the cod fat at the neck of the scrotum:
 - A. popliteal
 - B. deep inguinal
 - C. superficial inguinal
 - D. supramammary
 - E. ischiatic

6. Which one of these statements is not the function of the liver:
- A. Produces and secretes bile
 - B. Stores iron
 - C. Prepares fat for utilization
 - D. Removes from the blood foreign materials
 - E. Stores vitamin B₁₂
7. Silverside bone in beef meat refers to the;
- A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones
8. Aitch and rump in beef refers to the;
- A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones
9. Brisket meat in beef refers to;
- A. Tibia bone
 - B. Fibula bone
 - C. Femur bone
 - D. Sternum bones
 - E. Pelvic bones
10. The pelvic bones in cattle consists of;
- A. Pubis, ilium, ischium bones
 - B. Pubis, radius, ulna bones
 - C. Pubis, shin, clod bones
 - D. Pubis, ischium, cramp bones
 - E. Tibia, fibula, femur bones
11. 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. None of the above

12. The pH of a recent slaughtered cattle carcass is 6.5 but after 24 hours it is expected to be;
- A. 8.5
 - B. 7.5
 - C. 6.5
 - D. 5.5
 - E. 4.5
13. Which one of the statements is not true?
- A. Fats prevent loss of heat from the body
 - B. Saturated fats are commonly solid at room temperature
 - C. Unsaturated fats are commonly liquid at room temperature
 - D. Double bonds in fatty acids increase the melting point in fats
 - E. Double bonds in fatty acids decrease the melting point in fats
14. Stifle joint in food animals refers to;
- A. Carpus joint
 - B. Tarsus joint
 - C. Femero-tibio-patello joint
 - D. Metatarsus joint
 - E. Metacarpus joint
15. In cattle, horns can be used in the estimation of age by means of counting the rings upon the horns. Therefore when an ox has four (4) rings on the horns it is;
- A. 6 years old
 - B. 5 years old
 - C. 4 years old
 - D. 3 years old
 - E. 2 years old
16. In young animals, the cartilages are associated with the bones. As the animal ages, the cartilages are converted into bones. The ischio-pubic symphysis can be cut by knife since it remains a cartilage up to;
- A. 1 year
 - B. 2 years
 - C. 3 years
 - D. 4 years
 - E. 5 years
17. Which one of the statements is not true in relation to rigor mortis;
- A. There is contraction and hardening of the voluntary muscles
 - B. There is stiffening of the joints
 - C. The meat pH is retained at neutral (6.5)
 - D. There is conversion of glycogen into lactic acid within the meat or muscles
 - E. A and B

18. A swollen lower jaw in sheep indicates;
- A. Intestinal worms
 - B. Liver flukes
 - C. Actinomycosis
 - D. Actinobacillosis
 - E. A and B
19. In pig swollen joints are indicative of;
- A. Swine erysipelas
 - B. Swine fever
 - C. Pig paratyphoid
 - D. None of the above
 - E. All of the above
20. Which one of these statements is not correct about the pelvic girdle?
- A. In female, the front of the pubis is sharp and linear
 - B. In males, the front edge of the pubis is rounded and blunt
 - C. The pelvic cavity of males is much narrower and the floor formed by ischium and pubis is concave
 - D. The pelvic cavity of females is wide to contain the uterus and the vagina, rectum and bladder
 - E. The ilium, ischium and pubis are fused at birth
21. The positional term, dorsal refers to;
- A. nearer the head
 - B. nearer the back
 - C. nearer the tail
 - D. nearer the front
 - E. nearer the central line
22. 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
23. 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. all of the above
 - E. none of the above

24. In sheep, the site of shooting during stunning of animals is;
- 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
 - the center of the forehead between the ears
 - about 1.5 cm above the level of the eyes in the mid line
 - all of the above
 - none of the above
25. What is a virgin female in cattle known as?
- Ewe
 - Gimmer
 - Heifer
 - Sow
 - Steer

[25 Marks]

Question 2

- a. Meat inspection involves the examination of the carcass lymph nodes. Why is this so? (5)
- b. List all the lymph nodes located on the following organs in cattle:
- ◆ Head
 - ◆ Intestines
 - ◆ Lungs
 - ◆ Liver
 - ◆ Thigh
 - ◆ Neck
 - ◆ Genital organs of female
 - ◆ Genital organs of males
 - ◆ Kidney
 - ◆ Brisket
- (12)
- c. Why is ante-mortem examination important in meat inspection? (5)
- d. List the equipment of importance required by the inspector (3)
- [25 Marks]

Question 3

You are required to perform a comparative anatomy for the food animal organs.

- Spleen in cattle, pigs and sheep (6)
- Liver in cattle, pigs and sheep (8)
- Kidneys in cattle, pigs and sheep (6)
- Heart in cattle, pigs and sheep (5)

[25 Marks]

Question 4

- a) Describe the process of digestion of carbohydrates and food absorption in the small intestines. (10)
- b) Why starving cattle would accumulate fat in the liver? (3)
- c) Discuss the enzymatic and hormonal digestion of food in cattle? (12)
- [25 Marks]**

Question 5

- a) Name any five (5) diseases which are zoonotic (5)
- b) How do the following pre-slaughter care factors influence high quality meat production?
- fasting, (3)
 - resting, (4)
 - supply of potable water (3)
- c) What is "halal meat"? (5)
- d) The carcass of slaughtered cattle may either have a jelly-like texture or dry-like surface. Why is that so? (5)
- [25 Marks]**