

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2013

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 question:

Choose the most appropriate answer;

1. 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
2. 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
3. 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
4. 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
5. Silverside bone in beef meat refers to the;
 - A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones
6. Aitch and rump in beef refers to the;
 - A. Tibia
 - B. Fibula
 - C. Femur
 - D. Sternum bones
 - E. Pelvic bones

7. Brisket meat in beef refers to;
- A. Tibia bone
 - B. Fibula bone
 - C. Femur bone
 - D. Sternum bones
 - E. Pelvic bones
8. 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
9. 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
10. 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
11. 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 increases the melting point in fats
 - E. Double bonds in fatty acids decreases the melting point in fats
12. Stifle joint in food animals refers to;
- A. Carpus joint
 - B. Tarsus joint
 - C. Femero-tibio-patello joint
 - D. Metatarsus joint
 - E. Metacarpus joint

13. 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
14. In young animals, the cartilages are associated with the bones. As the animal age, 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
15. A swollen lower jaw in sheep indicates;
- A. Intestinal worms
 - B. Liver flukes
 - C. Actinomycosis
 - D. Actinobacillosis
 - E. A and B
16. 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
17. 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
18. 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

19. 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
20. In sheep, 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
21. What is a virgin female in cattle known as?
- A. Ewe
 - B. Gimmer
 - C. Heifer
 - D. Sow
 - E. Steer
22. 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. 7.5
 - B. 6.5
 - C. 6.0
 - D. 5.5
 - F. 5.0
23. 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
24. 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

25. 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. has no important function in the red muscles
 - E. carries nutrients to the red muscles

[25 Marks]

Question 2

- a. Meat inspection involves the examination of the carcase 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 a meat inspector [3]

[25 Marks]

Question 3

- a. You are given a table full of kidneys and livers of cattle, sheep and pigs. Explain how would you differentiate these organs in relation to sheep, pig and cattle. [18]

- b. All animal meat should be inspected before human consumption. Why is that so? [7]

[25 Marks]

Question 4

- a) Describe the process of digestion of carbohydrates and food absorption in the small intestines of cattle. [10]
- b) Explain why starving cattle would accumulate fat in the liver? [3]
- c) Discuss the 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 carcase of slaughtered cattle may either have a jelly-like texture or dry-like surface. Why is that so? [5]

[25 Marks]