

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2006

TITLE OF PAPER : FOOD & MEAT HYGIENE

COURSE CODE : EHS 101

DURATION : 3 HOURS

MARKS : 100

INSTRUCTIONS :

- : ANSWER ONLY FIVE QUESTIONS.
- : QUESTION ONE IS COMPULSORY
- : EACH QUESTION CARRY 20 MARKS.
- : NO QUESTION PAPER SHOULD BE BROUGHT INTO NOR OUT OF THE EXAMINATION ROOM.
- : 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 best answer)

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

2. Aitch and rump in beef refers to the;
A. Tibia
B. Fibula
C. Femur
D. Sternum bones
E. Pelvic bones

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

4. 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

5. 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

6. 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

7. 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
8. 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
9. Stifle joint in food animals refers to;
A. Carpus joint
B. Tarsus joint
C. Femero-tibio-patello joint
D. Metatarsus joint
E. Metacarpus joint
10. 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
11. 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 remain a cartilage up to;
A. 1 year
B. 2 years
C. 3 years
D. 4 years
E. 5 years
12. 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

13. Cooked foods not immediately served;
- A. Offer no hazard in the transmission of foodborne diseases
 - B. If properly protected, need no refrigeration
 - C. Should be cooled quickly and stored at 5 ° C until served
 - D. Can be kept indefinitely at normal refrigeration temperature
 - E. B and C are true
14. What is primary factor in the preservation of fermented foods;
- A. Acidity
 - B. Alkalinity
 - C. Chemical preservatives
 - D. Heat
 - E. Water activity
15. Nondisposable cloths and sponges used to clean surfaces should be handled in which one of the following ways at the end of each work day;
- A. Rinsed and hung to air dry overnight
 - B. Boiled, washed and dried quickly
 - C. Washed, rinsed and dipped in a sanitizer solution
 - D. Kept in a disinfectant overnight
 - E. Kept in a refrigerator overnight
16. Basic steps for cleaning kitchen utensils are to;
- A. Remove gross soil, apply detergent, scrub, rinse
 - B. Remove gross soil, wash, rinse and dry
 - C. Remove gross soil, apply detergent, scrub, apply disinfectant rinse
 - D. Remove gross soil, wash and disinfect in same step
 - E. Remove gross soil, apply detergent, scrub, rinse and apply disinfectant
17. Which kind of agents is used to loosen and soften burnt food residues on ovens;
- A. emulsifer
 - B. sequestering agent
 - C. amphoteric compounds
 - D. abrasive compounds
 - E. enzymes to digest the residues
18. The direct or indirect transmission of objectionable matter to a food product is called by which of these names;
- A. adulteration
 - B. contamination
 - C. infection
 - D. infestation
 - E. pollution

19. Milk curdling during the process of cheese manufacture, occur in the presence of which enzyme;
- A. pepsin
 - B. lipase
 - C. rennin
 - D. ptyalin
 - E. amylase
20. Meat tenderizing (partially digestion of tough meat more palatable) is due to which enzyme;
- A. pepsin
 - B. lipase
 - C. rennin
 - D. ptyalin
 - E. amylase

[20 Marks]

Question 2

Define the following terms commonly used in relation to food safety;

- a) FIFO
- b) Shelf-life of food product
- c) D-value
- d) Mycotoxins
- e) Z-value
- f) Freezer burn
- g) Danger Zone of Bacterial Growth
- h) Disinfectants
- i) Food spoilage
- j) Shelf-stable food product

Note; two marks each

[20 Marks]

Question 3

You are a newly employed Environmental Health Officer (EHO) at the Mbabane City Council in the food safety section. Outline your function and day to day duties.

[20 Marks]

Question 4

- a) Explain at least three (3) very important principles that should be adhered to when designing a food establishment. [6]
- b) Outline factors that would influence a good wall finish in a restaurant. [4]
- c) Briefly explain all the factors that have to be considered in choosing a suitable floor finish in food industry. [8]
- d) How does staphylococcal infection contaminate food? [2]

[20 Marks]

Question 5

- a) Briefly explain the reactions that take place during rigor mortis. [5]
- b) Why is it important to stun food animals before slaughter? [4]

- a) During post-mortem inspection a great deal of time is spent in the examination of lymph nodes. Why is this so? [4]
- b) Give all the lymph nodes located in the following organs or locations
 - i) Head
 - ii) Intestines
 - iii) Liver
 - iv) Located outside of the carcass embedded in fat, about a hand's breadth in front of the shoulder joint.
 - v) Located on the outside of the carcass and is embedded in fat. It is exposed by incisions made at the edge of the tensor fascia lata, about 18 cm down from the apex of the muscle.

[7]

[20 Marks]