



**UNIVERSITY OF SWAZILAND**  
**Faculty of Health Sciences**

**DIPLOMA IN ENVIRONMENTAL HEALTH**  
**FINAL EXAMINATION PAPER 2007**

**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 CARRIES 20 MARKS.
- : NO 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.**

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**Question 1**

***Multiple Choice Questions***

***(Choose the most appropriate answer)***

1. Aitch or rump in beef meat refers to the;  
A. Pelvic bones  
B. Fibula  
C. Radius  
D. Ulna  
E. None of the above
  
2. Shin in cattle refers to which bone?  
A. Ilium  
B. Radius  
C. Ischium  
D. Pubis  
E. None of the above
  
3. Ruminants store grass in the.....and then during rest it regurgitates it back to the mouth for chewing;  
A. Reticulum  
B. Omasum  
C. Rumen  
D. Abomasum  
E. All of the above
  
4. If a food animal fat has a high amount of stearin fatty acid, the resultant fat will have;  
A. A white color  
B. An oily consistency  
C. A yellow color  
D. A firm consistency  
E. None of the above
  
5. If a food animal is given a feed which is high in carotene and low palmitin fatty acid, the resultant fat will be;  
A. A firm texture  
B. An oily texture  
C. A yellow color  
D. None of the answers is correct  
E. A white color

6. The pH of a recently 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. The positional term, anterior refers to;
- A. nearer the head
  - B. nearer the back
  - C. nearer the tail
  - D. nearer the front
  - E. nearer the central line
8. A swollen udder in cattle indicates;
- A. Bovine tuberculosis
  - B. Mastitis
  - C. Metritis
  - D. Pneumonia
  - E. None of the above
9. 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
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. 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. Submaxillary
  - C. Parotid
  - D. Popliteal
  - E. Superficial inguinal
  
12. What is the intrinsic factor in the preservation of fermented foods?
  - A. Acidity
  - B. Alkalinity
  - C. Chemical preservatives
  - D. Heat
  - E. Water activity
  
13. Food containing foodborne disease bacteria are:
  - A. not necessarily decomposed in appearance
  - B. detectable by smell
  - C. detectable by taste
  - D. detectable by smell & taste
  - E. detectable by smell, taste & appearance
  
14. Which one of the following foods has the lowest pH?
  - A. guava
  - B. apple
  - C. tomato
  - D. shrimps
  - E. peas
  
15. Which kind of agent is used to loosen and soften burnt food residues in ovens?
  - A. emulsifer
  - B. sequestering agent
  - C. amphoteric compounds
  - D. abrasive compounds
  - E. enzymes to digest the residues
  
16. Bacterial contaminants:
  - A. Multiply rapidly in dehydrated foods
  - B. Resume multiplication when dehydrated foods are reconstituted.
  - C. Do not grow well in reconstituted dehydrated foods.
  - D. Are eliminated in foods during the dehydration process.
  - E. Are not found in dehydrated foods.

17. Factors inherent in a food that influence microbial growth are known as:
- A. extrinsic factors
  - B. intrinsic factors
  - C. nutritional factors
  - D. physicochemical factors
  - E. processing factors
18. Brisket meat in beef refers to;
- A. Tibia bone
  - B. Fibula bone
  - C. Femur bone
  - D. Sternum bones
  - E. Pelvic bones
19. 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
20. Sodium benzoate is added in soft drinks in Swaziland in order to;
- A. Destroy bacteria
  - B. Destroy molds
  - C. Inactivate enzymes
  - D. Restore the color of soft drinks
  - E. All of the above

[20 Marks]

## Question 2

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

- a) D-value [3]
- b) HACCP ( write in full) [3]
- c) Z-value [3]
- d) Danger Zone of Bacterial Growth [3]
- e) Aw (Water activity) [2]
- f) Halophile [2]
- g) Ambient temperature [1]
- h) Aseptic [1]
- i) Blanching [2]

[20 Marks]

**Question 3**

- a) What factors influence the choice in the selection of kitchen floor and wall finish? [8]
- b) Discuss the advantages and disadvantages of the following floor finishes; [4]
- Quarry tiles [6]
  - Polyvinyl chloride (PVC) [6]
- c) What is the main purpose of an extractor fan over the cooking area in the restaurant kitchens? [2]
- [20 Marks]

**Question 4**

- a) What do you understand by the term Environmental Health [10]
- b) You are a newly employed Environmental Health Officer (EHO) at the Mbabane City Council in the food safety section. Outline your day to day duties and functions. [10]
- [20 Marks]

**Question 5**

- a) Why is it necessary to withdraw antibiotics before the slaughter of a food animal? [1]
- b) Meat quality is influenced by the care given to the animal prior to slaughter. How is this so? [5]
- c) Meat inspection involves the examination of the carcass lymph nodes. Why is this so? [4]
- d) List all the lymph nodes located on the following organs: [10]
- ◆ Head
  - ◆ Intestines
  - ◆ Lungs
  - ◆ Liver
  - ◆ Thigh
  - ◆ Neck
- [20 Marks]