

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

**DIPLOMA IN ENVIRONMENTAL HEALTH**

**FINAL EXAMINATION PAPER 2008.**

**TITLE OF PAPER** : MEAT PATHOLOGY

**COURSE CODE** : EHS 209

**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 Best Answer)**

1. In poultry processing lines, which of the steps offers the best opportunity for the spread of contamination and increased bacterial counts?
  - A. Killing and bleeding
  - B. Plucking
  - C. Singeing
  - D. Evisceration
  - E. B and C
  
2. Which of the following diseases is zoonotic?
  - A. Papillomatosis
  - B. Tularaemia
  - C. Scrapie
  - D. Actinomycosis
  - E. Blakquarter
  
3. Which of the following diseases is not zoonotic?
  - A. Anthrax
  - B. Bovine tuberculosis
  - C. Brucellosis
  - D. Tularaemia
  - E. Scrapie
  
4. In cattle, low moist cough, discharge of a yellow mucus during the coughing is indicative of;
  - A. *Bovine tuberculosis*
  - B. Tetanus
  - C. *Gangrenous pneumonia*
  - D. Parasitic bronchitis
  - E. A,B ad C
  
5. In your routine ante-mortem inspection the following symptoms are seen; foul smelling faeces that contain bubbles of gas. What would be the likely cause?
  - A. Salmonellosis
  - B. Rinderpest
  - C. Johne's disease
  - D. Bovine tuberculosis
  - E. A,B and C

6. You perform a routine ante-mortem inspection in pigs, the following symptoms are seen; decoloration of skin. What would be the likely cause?
- A. Pig paratyphoid
  - B. Swine erysipelas
  - C. Swine fever
  - D. African swine fever
  - E. A, B and C
7. In cattle, high fever, bloody diarrhea, with discharge of dark, red, tarry, uncoagulated blood from nose, mouth, and anus is due to;
- A. Brucellosis
  - B. Blackquarter
  - C. Actinomycosis
  - D. Actinobacillosis
  - E. Anthrax
8. In cattle, crepitate swellings of the shoulder, neck, breast, loins or thigh and muscle areas most subjected to trauma indicates;
- A. Brucellosis
  - B. Blackquarter
  - C. Actinomycosis
  - D. Actinobacillosis
  - E. Anthrax
9. In pigs, chronic arthritis(swollen joints) will be indicative of;
- A. Swine fever
  - B. Swine erysipelas
  - C. African swine fever
  - D. Pig paratyphoid
  - E. Bovine tuberculosis
10. Foul breath in cattle may be due to;
- A. Pneumonia
  - B. Gangrenous pneumonia
  - C. Bovine tuberculosis
  - D. Anthrax
  - E. Blackquarter
11. Which of the following fish has a high fat content in the muscles;
- A. Haddock
  - B. Cod
  - C. Halibut
  - D. Mackerel
  - E. Whiting

12. Which of these fish is able to spread Scombroid food poisoning
- A. Haddock
  - B. Cod
  - C. Halibut
  - D. Mackerel
  - E. Whiting
13. The causative agent for bacillary white diarrhoea in poultry is;
- A. *Salmonella pullorum*
  - B. *Salmonella gallinarum*
  - C. *Heterakis gallinarum*
  - D. *Avian mycoplasmae*
  - E. *Yersinia pseudotuberculosis rodentium*
14. Mareks disease in domestic fowl is manifested by;
- A. Solidification of the yolk
  - B. Nodular lymphoid tumours on the surface of the liver
  - C. Partial or complete paralysis of the wings and legs
  - D. Blood stained contents and minute bluish and whitish foci on intestinal wall
  - E. Liver enlargement with numerous yellow, circular and necrotic areas
15. The causative agent for Fowl typhoid is;
- A. *Salmonella pullorum*
  - B. *Salmonella gallinarum*
  - C. *Heterakis gallinarum*
  - D. *Avian mycoplasmae*
  - E. *Yersinia pseudotuberculosis rodentium*
16. Fowl cholera is caused by;
- A. *Salmonella pullorum*
  - B. *Salmonella gallinarum*
  - C. *Heterakis gallinarum*
  - D. *Avian mycoplasmae*
  - E. *Yersinia pseudotuberculosis rodentium*
17. Tuberculosis in poultry is caused by;
- A. *Mycobacterium bovine*
  - B. *Mycobacterium tuberculosis*
  - C. *Mycobacterium microtes*
  - D. *Mycobacterium avium*
  - E. A and B

18. Human tuberculosis may be caused by;
- A. Mycobacterium bovis
  - B. Mycobacterium tuberculosis
  - C. Mycobacterium microtes
  - D. Mycobacterium avium
  - E. A and B
19. Pigs tuberculosis is due to;
- A. Mycobacterium bovis
  - B. Mycobacterium tuberculosis
  - C. Mycobacterium microtes
  - D. Mycobacterium avium
  - E. A, B and D
20. Univalves mollusks include;
- A. oyster
  - B. winkles
  - C. mussels
  - D. shrimps
  - E. scallops
21. Which one of these fish is a sea water fish?
- A. pike
  - B. tuna
  - C. sardine
  - D. catfish
  - E. B and C
22. Which one of these fish is a freshwater fish?
- A. pike
  - B. tuna
  - C. Sardine
  - D. catfish
  - E. A and D
23. Fish will spoil immediately if taken out of water unless the temperature is lowered; for example cod fish is uneatable after 15 days when kept at;
- A. 5 deg C
  - B. 0 deg C
  - C. -10 deg C
  - D. -20 deg C
  - E. -30 deg C

24. Fish will spoil immediately if taken out of water unless the temperature is lowered; for example cod fish is uneatable after 15 months when kept at;
- A. 5 deg C
  - B. 0 deg C
  - C. -10 deg C
  - D. -20 deg C
  - E. -30 deg C
25. Chronic form enlargement and fibrous development on tongue resulting in hardening is a symptom that is indicative to;
- A. Brucellosis disease
  - B. Blackquarter disease
  - C. Actinomycosis
  - D. Actinobacillosis
  - E. Anthrax disease

[25 Marks]

### Question 2

Discuss the slaughtering process of poultry from unloading to dispatch with emphases on procedure likely to be a risk to contamination.

[25 Marks]

### Question 3

- a. Matsapha poultry abattoir has bought 20000 birds from the Kwazulu-Natal province. The birds are detained for two weeks before slaughter. On the day of ante-mortem inspection at least 3500 birds are found dead. One experienced abattoir worker suspect Newcastle disease. How would you then confirm her/his suspicion? (10)
- b. What strategies would you employ in the control of Newcastle disease in poultry? (15)

[25 Marks]

### Question 4

- a. Fish and shellfish are the richest sources of first class proteins but they have the problem of rapidly decomposition and spoilage. Fish and shellfish are also associated with foodborne illnesses. You are therefore required to outline measures to be introduced by the City Councils of Mbabane & Manzini in order to keep these food safe and of good quality.

(5)

- b. Discuss fish spoilage with emphasis on microbial, enzymatic and oxidative action. (10)
- c. Write short notes on the following;
- ◆ Depuration (3)
  - ◆ Shrimps & prawns (4)
  - ◆ Dermosal fish (3)
- [25 Marks]**

### Question 5

- a. What symptoms are likely to be observed in human brucellosis? (2)
- b. Discuss the measures necessary to control human brucellosis. (3)
- c. Explain the conditions likely to pre-dispose cattle to salmonellosis? (10)
- d. In the control of human tuberculosis in Swaziland, what measures are necessary particularly on the animal infection reservoir? (10)
- [25 Marks]**