THE UNIVERSITY OF ZAMBIA

SCHOOL OF VETERINARY MEDICINE – (2016 -2017)

TABLE OF CONTENTS

THE UNIVERSITY OF ZAMBIA
SCHOOL OF VETERINARY MEDICINE
MID-TERM EXAMINATIONS-2016/17 ACADEMIC YEAR

ANIMAL WELFARE AND BEHAVIOUR (VMB 2511)

Duration: 3 hours

INSTRUCTIONS:

1. Please read the instructions and each question carefully.
2. Answer any **FIVE (5)** questions .
3. Write the answers to each question in a separate examination answer book.
4. **ALL** questions carry equal marks.

···SECTION A···

1. A veterinarian should be able to recognize animal welfare issues on the farm whenever they exist. Compare and constrast the welfare problems in beef cattle which can be found at a commercial feedlot and at a village cattle-rearing community such as is the case in Namwala District of Zambia. **(20 marks)**

2. Describe the indicators of poor welfare you would find in an abandoned dog brought to your practice by a 'good Samaritan'. **(20 marks)**

3. A farmer wants to transport some animals from Lusaka to Nakonde and has come to your office for a movement permit. You go to inspect the animals and find them in the vehicle as shown in the diagram below. The farmer doesn't understand why you cannot allow the transportation of these animals.

   a) Outline the welfare concerns in the cattle above if the farmer were allowed to transport them in the current state. **(10 marks)**
   b) Describe the future recommendations you would make to the farmer in order to ensure good welfare of cattle during transportation. **(10 marks)**

4. Horses may have been domesticated about 6000 years ago probably initially as a food source. This domestication has led to their inability to socialize, move around and spend most of their time grazing. It has also led to horse being stabled and thus allowing them to adopt some behaviours detrimental to their health.
   a) Outline the traits that made the horse a good candidate for domestication **(4 marks)**.
   b) Write short notes for each of the following horse behaviours **(2 marks each)**:
        i.   Ingestive behaviour
        ii.   Eliminative behaviour
        iii. Vigilance behaviour
   c) List and outline **four (4)** stereotypic behaviours of horses that may be harmful to humans or to the animal's health **(1.5 marks each).**
   d) Outline the body language of a nervous horse **(4 marks)**

5. When designing animal housing and handling facilities, a number of types of animal behaviour and characteristics should be taken into account.
   a) List eight (8) types of animal behaviour. **(4 marks)**
   b) Expand and explain four (4) of the types of animal behaviour listed in (a) above using both male and female cattle. **(12 marks)**
   c) How does your understanding as a veterinarian of the types of animal behaviour and welfare? **(4 marks)**

6. Give a detailed description of how you would carry out a group welfare assessment of cattle at a slaughter house. **(20 marks)**

7. Write short notes on how the following may affect welfare of an animal: **(5 marks each)**
   a) Genetics
   b) Farming systems
   c) Stockperson
   d) Disease

END OF EXAMINATION

THE UNIVERSITY OF ZAMBIA
SCHOOL OF VETERINARY MEDICINE
MID YEAR JUNE EXAMINATIONS-2016/17 ACADEMIC YEAR

VETERINARY PHYSIOLOGY (VMB 3311)

Duration: 3 hours

INSTRUCTIONS:
1. Please read the instructions and each question carefully
2. Answer **FIVE (5)** questions only
3. **ALL** questions carry equal marks
4. Write in a legible handwriting

QUESTION 1

A Dog is presented to you with a history of weakness, weight loss and increased skin pigmentation. Upon examination you find that the dog also has hypotension and an increased pulse rate. Laboratory results review the following; reduced serum sodium, reduced serum osmolarity, increased serum potassium, and gasses in the arteries consistent with metabolic acidosis. If the cause for all these findings is the adrenal gland;

a) State which condition associated to the adrenal glands can bring about these changes

(2 marks)

b) Give a detailed description on how each of these finding may arise.   **(8 marks)**

c) In detail, describe the hormone second messenger system associated with Calcium.

(10 marks)

QUESTION 2

The cardiovascular system plays an important role in maintaining the quality of life for an animal. This includes the movement of fluids and dissolved substances around the body among other functions.

a)   In the blood capillaries, water molecules are exchanged between plasma and the interstitial fluid. Explain the forces that govern the movement of water molecules across the capillary wall.   **(8 marks)**

b)   What events in the cardiac muscle are associated with the P wave and QRS complex observed on the ECG (Electrocardiogram)?   **(2 marks)**

c) The mammalian circulatory system has two systems, name and describe the 2 systems in detail and their importance in ensuring efficient transport and exchange of substances in the animal's body. **(10 marks)**

QUESTION 3

One of the major functions of domestic animals is to be able to reproduce. Describe in details how domestic animals, particularly cattle establish pregnancy. **(20 marks)**

QUESTION 4

Define Basal Metabolic Rate (BMR) and clearly explain how each of the following factors like muscle mass, gender, age and body size in relation to weight, and surface area affect the metabolism. **(20 marks)**

QUESTION 5

a) Gastrointestinal tract (GIT) motility is an essential part of the digestive process. Explain what role motility plays in digestion. **(2 marks)**

b) Explain how the intrinsic endocrine system affects GIT function? **(4 marks)**

c) Describe in detail, carbohydrate and protein digestion, absorption and utilization in the ruminant animal (fermentative process). **(14 marks)**

QUESTION 6

a) Give a detailed approach to breeding soundness evaluation of a bull including procedures involved in semen harvesting and analysis. **(10 marks)**

b) Descried the four phases of bovine estrus cycle including the corresponding hormonal interactions. **(10 marks)**

..........................END OF EXAMINATION......................

THE UNIVERSITY OF ZAMBIA
SCHOOL OF VETERINARY MEDICINE
END OF YEAR AUGUST/SEPTEMBER EXAMINATIONS
2016/17 ACADEMIC YEAR

VETERINARY CLINICAL PATHOLOGY (VMD 4102)

Duration: 3 hours

INSTRUCTIONS:

1. Carefully read the instructions and each question
2. Answer **ALL FIVE (5)** questions
3. **ALL** questions carry **EQUAL** marks
4. Write in a legible handwriting

QUESTION 1

You are presented with a dog showing classical signs of anaemia. A client insists that he would only believe your laboratory findings if you explained the tests and the expected results before you perform the investigation.

    i) Briefly explain the tests would you would carry out on this dog? **(10 marks)**

    ii) If the client insists that the dog has was involved in an RTA, explain to the client the expected results from your investigation **(10 marks)**

QUESTION 2

Write brief and concise notes on the following;

a) Biomarker **(4 marks)**

b) EDTA **(4 marks)**

c) Glucose tolerance test **(4 marks)**

d) Troponin **(4 marks)**

e) TSH response test **(4 marks)**

QUESTION 3

a) Describe the different ways to preserve a sample for laboratory diagnosis? **(2 marks)**

b) What are the different information necessary to supply along with sample to the laboratory? **(8 marks)**

c) An 8 year old German shepherd dog was presented to a veterinarian complaining of weight loss, polyuria, depression and occasional vomiting and diarrhoea. Following are the laboratory findings in the table below.

Heamatology	Values
PCV	58%
RBC	$6.5 \times 10^6/\mu L$
Hb	15g/dL
Plasma protein	6g/dL
TWBC	12,000/μL
Seg. Neutrophil	9,600/μL
Band Neutrophil	0 (%)
Lymphocytes	1,800 (3%)
Monocytes	360/μL (3%)
Eosinophils	240/μL (2%)
Platelets	200,000/μL
Reticuloctyes	12,000/μL

Urine Examination	Values
Colour	Yellow
Protein	Negative
SPG	1.031
pH	6.3
Glucose	+++
Ketones	+++
Sediment Microscopic	Negative

Blood Biochemistry	Values
Glucose	350mg/dL
Cholesterol	280mg/dL

Interpret all the 20 parameters given above with that of normal you know in dogs. Discuss the major deviated findings giving your laboratory diagnosis in this patient **(10 marks)**

QUESTION 4

a) As an expert in Veterinary Clinical pathology your supervisor receives a laboratory request from a practitioner for ALP and GGT for a dog that is suspected to have a long standing liver condition. Your supervisor was supposed to write a report rejecting the proposed request from your laboratory.

   i) Write this report supporting your supervisor decision to reject the request since he is beyond mobile network coverage **(10 marks)**

   ii) What would be your recommendation to the practitioner since you have rejected his request? (**10 marks**)

QUESTION 5

   a) Give four indications of bone marrow examination **(2 marks)**
   b) Name the precursor cell and different types of developing blood cells found in the bone marrow and in the peripheral circulation after maturation **(8 marks)**
   c) What do you know about M:E and when to evaluate in a patient? **(2 marks)**
   d) Describe the cytological features of different types of round cell tumours found in dogs to enable a clinical pathologist make a diagnosis based on cytology **(8 marks)**

.........................END OF EXAMINATION.......................

THE UNIVERSITY OF ZAMBIA

SCHOOL OF VETERINARY MEDICINE

DEPARTMENT OF DISEASE CONTROL

VMD 5201 (Infectious Diseases of Livestock)

Mid-year Examination

Date : June 2017
Duration : Three (3) hours
Total marks : 100
Instructions : There are **SEVEN (7)** questions in this paper. Answer **ANY FIVE (5).** Each question carries **TWENTY (20) marks**

Q1. As a Veterinarian you are called to a pig farm. Upon arrival, the farmer informs you that the pigs don't seem interested in feeding, an observation he finds odd. As you make your own observations, you notice this offbeat behavior despite feed being dispensed in the troughs. On close observation, a few pigs walk with an arched back and stiff gait. Mostly gilts and pokers are affected. On your clinical observation the temperature is averaging 41° C, with dyspnea in some. The pigs seem to prefer lying on sternal recumbence without piling.

  i.   What is the tentative condition you are likely to be dealing with? [**1 Mark**]
  ii. This condition has a common synonym. What is it? [**1 Mark**]
  iii. What are the two most likely differentials? [**2 Marks**]
  iv. There is another "fever", which causes almost a similar presentation, how can you deductively exclude this "fever" as not being the one causing this condition. [**4 Marks**]
  v.   With necessary detail, outline the complication resulting from this infectious disease. [**4 Marks**]
  vi. How can you go about diagnosis this condition to have a definitive diagnosis? [**3 Marks**]
  vii. If it's treatable, what is the best treatment option? [**2 Marks**]
  viii. What are the best preventive measures will you advise the farmer? [**3 Marks**]

Q2. African swine fever (ASF) is a highly contagious, generalized disease of pigs caused by an *Asfivirus* of family *Asfarviridae*.
  i. Describe the geographic distribution of ASF in Zambia [**10 Marks**]
  ii. Explain the factors that has led to the increase in outbreaks of ASF in areas considered as ASF non-endemic to the disease in Zambia [**10 Marks**]

Q3. Discuss the aetiology, transmission, epidemiology, pathogenesis, clinical manifestation and control of *Dourine* [**20 Marks**]

Q4.

  i.   Describe the causative agent and clinical signs of Contagious Bovine Pleuropneumonia (CBPP). How would you describe the disease? **[10 Marks]**

  ii.   Describe the measures that have been used in Angola, Botswana, Namibia and Zambia to control CBPP **[10 Marks]**

Q5.

  i.   Describe the causative agent and clinical signs of Theileriosis **[10 Marks]**

  ii.   Mention two (2) samples that you would collect if you suspect Theileriosis and what you would observe on laboratory examination to confirm the disease **[5 Marks]**

  iii.   Explain the control measures you would institute in a Theileriosis endemic area **[5 Marks]**

Q6. A major road development activity is being carried out in one of the rich ranching areas of your country. This development involves massive excavations of land. Following these excavations, farmers start recording mortalities in horses, pigs and cattle looming the sites of development. At one instance, a farmer records animal death within three to six hours of noticing behavioral abnormalities. The animals especially cattle exhibited high fever with muscle tremors and congested mouth mucosa. These observations were followed with convulsions, animal collapse and death. Blood was seen from natural orifices.

  i.   What is your probable diagnosis, stating differential diagnosis as well?

  ii.   Describe the mode of transmission and the resultant pathophysiology, leading to observed clinical signs.

  iii.   Of the diagnosed disease outline factors that would lead to a massive outbreak of the disease in your country.

  iv.   Discuss the diagnosis and control measures of the disease.

Q7. Give a detailed account of the aetiology, pathogenesis, clinical signs and control measures of peste des petits ruminants **[20 Marks]**

=============================END OF EXAMINATION=======================

VETERINARY JURISPRUDENCE AND EXTENSION (VMD 6701)

TIME: 3 HOURS
TOTAL MARKS: 100%
INSTRUCTIONS: ANSWER ALL QUESTIONS

1. A.

   List the different laws of Zambia involving veterinary surgeons and livestock workers / products - their import and export including veterinary medicines and biologicals. *(10)*

   B.

   Give the salient features of the three most important Acts out of above listed in your opinion a veterinarian must have a thorough knowledge and understanding for legally acceptable veterinary service delivery. *(10)*

2. A.

   In any reputable profession there are self-regulations and obligations to be observed by each of its members and may not fall within the legal frame. Please write those in detail to be practiced by every veterinary surgeon to discharge reputable professional service. *(10)*

   B.

   What do you understand by euthanasia? Described the different methods you will use to euthanize different species of domestic and laboratory animals and any requirement from a client or laboratory. *(10)*

3.

   What are the dissemination routes for livestock husbandry and animal health information? What are the advantages and disadvantages in each route? Describe how would you ensure that communication is 'inclusive'? *(20)*

4. A.

What makes extension work less effective in Zambia than other developing countries? Describe how could you improve them as a senior extension worker? *(15)*

B.

Write the qualities of an ideal extension worker *(5)*

5.

Write briefly on any <u>five</u> of following:

        a. Formal and non-formal education *(4)*

        b. Ante-mortem and postmortem wound *(4)*

        c. Prior, during and post visit extension worker's check list *(4)*

        d. IBAR/ OIE/ FAO *(4)*

        e. Witness *(4)*

        f. Dental formula of an adult cow and mare *(4)*

VMM 7601

Emerging and re-emerging infectious diseases

TIME: **3 HOURS**

TOTAL MARKS: **100**

INSTRUCTIONS: ANSWER **ALL 5** QUESTIONS

Q1. Starting by defining the terminology "emerging and re-emerging infectious disease", discuss, with an example, the factors that may lead to emergence and re-emergence of infectious diseases. (20 Marks)

Q2. Cryptosporidiosis is an important opportunistic infection, especially in immune compromised individuals.
   a) Discuss in detail the two transmission cycles of *Cryptosporidium* parasites. (10 Marks)
   b) Discuss the prevention and control measures that can be employed to reduce environmental contamination as well as reduce transmission in animals and humans. (10 marks)

Q3. Microbial diseases transmitted from animals and environment to humans and *vice versa* usually occur as recurrent from time to time and in some cases man is caught unaware of such re-emergence. Examples of such diseases are cholera, anthrax and plague. As a zoonotic disease expert:
   a) What are the drivers of such re-emergences. (10 Marks)
   b) Explain the disease control measures that can be put in place for the control of such diseases.(10 Marks)

Q4. a) Discuss the epidemiology of filoviral haemorrhagic fevers under the following headings (10 marks)
      i.   Reservoir hosts
      ii. Susceptible animals
   b) Discuss the transmission and spread of Filoviral haemorrhagic fever in humans (10 marks)

Q5. Discuss in detail how you would prevent and control future possible influenza pandemics. (20 Marks)

END OF EXAMINATION

The University of Zambia
School of Veterinary Medicine
Department of Disease Control

MSc One Health Food Safety (OHFSTY) & OHAE Mid- Year 2017 Term 2 Examination Questions

Course: VMM 7702: One Health Medicine and Globalization

Date: 08/05/2017

Time: 09:00 – 12:00 HOURS

Venue: Department of Disease Control

INSTRUCTIONS:

1. Read instructions before attempting to answer the questions

2. Questions are organized in two Sections:

   SECTION A: One Health Medicine and Eco-System

   SECTION B: Globalization and Health

3. **Answer three (3) questions from each section:** Total Marks- **30 Marks each**

4. Total Marks for all six (6) questions: 60 Marks

SECTION ONE: ONE HEALTH MEDICINE AND ECO-SYSTEM

INSTRUCTIONS: Answer three (3) from the following questions:

Q1. One health and ecosystem:

a) Define one health?   (2 Mark)

b) Define an eco-system? (2 Mark)

c) What is the relationship in understanding one health between animal and human health as it relates to the three (3) domains of health as 'physical,' ' mental' and 'social wellbeing' as defined by the World Health Organization (WHO)? (6 Marks)

Q2. Describe the role of medical anthropological knowledge on how it can be used to improve the levels of health care for the humans and that of the animal species? (10 Marks)

Q3. Qualitative research:

a) Give examples of two (2) common methods of behavioural research approaches for data collection and their purposes that may be applied to gain the holistic nature of a health problem affecting communities and their live-stocks in a given geographical area? (5 Marks)

b) What could be the nature of information that can be explored by using these stated common methods? (5 Marks)

Q4. What are the techniques of qualitative data analysis? (10 Marks)

Q5. There are determinants of health influencing health which lie both within the individuals and externally in societies, what are these health determinants? (10 Marks)

PART B: GLOBALIZATION AND HEALTH

INSTRUCTION: Answer three (3) questions from the following:

Q1 a) Define globalization? (2 Marks)

b) Give two (2) examples of globalization effects on health? (3 Marks)

c) State the three (3) distinct interrelated dynamic phenomena of globalization?
(5 Marks)

Q2. Provide a list of five (5) major multiple determinants of globalization that have health effects on the population? (10 Marks)

Q3. Write short accounts on two (2) from the following:

a) Trade liberalization changes and the World Trade Regime (WTR) (5 Marks)

b) Debt crises and structural adjustment of developing countries (5 Marks)

c) Environmental damage (5 Marks)

d) Financial liberalization (5 Marks)

Q4. State the health effects of the World Trade Organization (WTO) related to trade treaties and their influence on health on three (3) of your own choice of the Agreements? (10 Marks)

END OF QUESTIONS