



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS**

**2022/2023 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER**

**SCHOOL OF NATURAL RESOURCE TOURISM  
AND HOSPITALITY**

**BACHELOR OF SCIENCE IN ANIMAL HEALTH  
AND PRODUCTION**

**COURSE CODE AHP 2205-1**

**COURSE TITLE: APICULTURE**

**DATE: 25/4/2023**

**TIME: 1430-1730 HRS**

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## **INSTRUCTIONS TO CANDIDATES**

- (i) Attempt ALL the questions
- (ii) Label your answers clearly
- (iii) Don't mix up answers
- (iv) DO NOT WRITE anything on the question paper

- Q1 a Discuss the socio-economic importance of bee industry in Kenya. (15 marks)
- b Discuss the reasons why apiculture is considered as a climate smart innovation. (5 marks)
- Q2. a Name the bee races found in Kenya. (5 marks)
- b Describe the caste system in a bee colony. (15 marks)
- Q3. a Describe the use of the following equipment:
- i. Refractometer (2 marks)
  - ii. Smoker (2 marks)
- b Discuss the advantages and disadvantages of the following hives:
- i. Langstroth (8 marks)
  - ii. Kenya Top Bar Hive (8 marks)
- Q4. a Discuss the hive unification process. (10 marks)
- b State the aspects of the hive that should be observed during hive inspection. (10 marks)
- Q5. Describe what constitutes Good seasonal management practices in apiculture.
- Q6. a Describe the honey grades sold in the Kenyan market. (15 marks)
- b Describe the bee bread and its importance. (5 marks)

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2022/2023 ACADEMIC YEAR  
SECOND YEAR SECOND SEMESTER**

**SCHOOL OF NATURAL RESOURCE AND  
ANIMAL SCIENCES  
BACHELOR OF SCIENCE IN ANIMAL HEALTH  
AND PRODUCTION**

**COURSE CODE AHP 3204-1  
COURSE TITLE: AQUATIC ANIMAL AND  
WILDLIFE DISEASES MANAGEMENT**

**DATE: 19/4/2023**

**TIME: 1430-1730 HRS**

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## **INSTRUCTIONS TO CANDIDATES**

- (i) Attempt ALL the questions
- (ii) Label your answers clearly
- (iii) Don't mix up answers

- Q1**
- a** Discuss the importance of water quality in aquatic animal health diseases management. (15 marks)
  - b** List any 2 physical and 3 chemical hydrological parameters of water in an aquatic system. (5 marks)
- Q2**
- a** Discuss the factors influencing disease resistance and immune response of fish. (18 marks)
  - b** Name any two (2) non-specific immune mechanisms in fish.  
(2 marks)
- Q3**
- a** Describe a non-infectious disease of fish, its diagnosis and treatment. (12 marks)
  - b** Describe any four (4) vaccination methods in fish. (8 marks)
- Q4** Describe the risk factors or drivers for the emergence of Wildlife diseases, some of which may have a zoonotic potential. (20 marks)
- Q5**
- a** Briefly discuss the considerations and steps in health risk assessment in wild animal translocations. (15 marks)
  - b** List five (5) approaches for control or eradication of pathogens from wild animal populations. (5 marks).
- Q6** Discuss the components of a national wildlife disease programme. (20 marks)

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**REGULAR UNIVERSITY EXAMINATIONS**

**2022/2023 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER**

**SCHOOL OF NATURAL RESOURCE AND  
ANIMAL SCIENCES**

**BACHELOR OF SCIENCE IN ANIMAL HEALTH  
AND PRODUCTION**

**COURSE CODE WRM 3227-1**

**COURSE TITLE: WILDLIFE DISEASES AND  
PATHOLOGY**

**DATE: 21ST APRIL, 2023 TIME: 11:00-1300HRS**

## **INSTRUCTIONS TO CANDIDATES**

- (i) Attempt ALL the questions in SECTION A and ANY THREE (3) in SECTION B.
- (ii) Label your answers clearly
- (iii) Don't mix up answers
- (iv) DO NOT WRITE anything on the question paper

**SECTION A (20 marks):**

**Q1 a** Define the following terms:

- a. Exotic Disease (2 marks)
- b. Emerging Disease (2 marks)
- c. Endemic Disease (2 marks)
- d. Zoonotic disease (2 marks)
- e. Disease ecology (2 marks)

**b** Translocation and re-introduction of wildlife poses risk of diseases to the animals and the ecosystem. Discuss the risks and the mitigation measures that can be employed. (10 marks)

**SECTION B (30 marks)**

**Q2 a** Name any 5 transboundary diseases and their causative agents that have been reported in wildlife. (5 marks)

**b** Discuss Malignant Catarrhal fever under the following subtopics:

- a. Causative agent (3 marks)
- b. Species affected (3 marks)

**c** Describe its wildlife/livestock disease interface (4 marks)

**Q3 a** Define and differentiate the following terms:

- a) Basic reproductive rate ( $R_0$ ) and Population threshold (3 marks)
- b) Exogenous and endogenous agent (3 marks)
- c) Immunization and vaccination (3 marks)

- b The desire or need to actively manage infectious disease in wild animals is a relatively recent phenomenon, compared to health management in humans and domestic animals. Briefly describe the reasons why the interest in diseases of wild species has increased recently. (6 marks)

**Q4** Discuss the risk factors or drivers for the emergence of Wildlife diseases, some of which may have a zoonotic potential. (15 marks)

**Q5** a Discuss the Corn and Nettles protocol to reduce the disease risk associated with translocation of elk in North America. that are applicable to any proposed translocation or reintroduction of wild animals in Kenya. (10 marks)

- b State the approaches for control or eradication of pathogens from wild animal populations. (5 marks).

**Q6** Discuss the merits and demerits of the proactive and reactive disease strategies. ( 15 marks)

**END//**



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ANIMAL SCIENCES  
BACHELOR OF SCIENCE IN ANIMAL HEALTH  
AND PRODUCTION**

**COURSE CODE AHP 2204-1**

**COURSE TITLE: AQUACULTURE**

**DATE: 19/4/2023**

**TIME: 0830-1130 HRS**

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**INSTRUCTIONS TO CANDIDATES**

- (i) Attempt ALL the questions
- (ii) Label your answers clearly
- (iii) Don't mix up answers



(iv) DO NOT WRITE anything on the question paper

- Q1 a** Discuss the importance of feeding fish correctly in an aquaculture production unit (10 marks)
- b** Describe the factors that affect the Feed Conversion Ratio. (10 marks)
- Q2 a** State five (5) forms of fish products for marketing. (10 marks)
- b** Discuss five (5) advantages of good milking techniques (10 marks)
- Q3** Describe the characteristics of a good production site for an aquaculture setup. (20 marks)
- Q4 a** Describe fish processing methods post-harvest. (10 marks)
- b** Describe five (5) types of fish ponds or fish containment used in the aquaculture sector. (10 marks)
- Q5 a** List any ten (10) registers to be maintained in a farm in Kenya (5 marks)
- b** Discuss any three (3) critical considerations for setting an aquaculture production system. (15 marks).
- Q6 a** List six (6) factors influencing pond design. (6 marks)
- b** Classify the aquaculture practices on the basis of the culture environment. (6 marks)
- c** With the aid of a diagram, describe the recirculation aquaculture system (8 marks)

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