MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR
THIRD-YEAR SECOND SEMESTER

SCHOOL OF NATURAL RESOURCE TOURISM AND HOSPITALITY

BACHELOR OF SCIENCE IN ANIMAL HEALTH AND PRODUCTION

COURSE CODE AHP 3207-1

COURSE TITLE: EPIDEMIOLOGY

DATE:29/5/24 TIME: 0830-1030HRS

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions

EPIDEMIOLOGY [120 Marks]

1. Briefly define the below terms used in epidemiology (**20MARKS**)

   a) Infection
   b) Disease
   c) Pathogenicity
   e) Incidence rate
   f) Vertical transmission
   g) Index case
   h) Sentinel animal
   i) Disease monitoring
   j) Active surveillance
   k) Prevalence

2. Discuss the goals of disease surveillance (**20 Marks)**
3. a. Explain why an extension of the host range is considered a means to maintain infection and provide an example of a pathogen with this trait (**5 marks**).
   b. Discuss why certain animals may act as dead-end hosts (**5 marks).**
   c. Briefly discuss observational studies in veterinary epidemiology (**10 marks**).

4. Using examples, discuss the three main factors that are important in the spread of infection (**20 marks**).

5. Using examples, explain the two means of transmission for infectious agents. (**20 marks)**

6. You are the overall technical manager of your farm in Narok County known as 'Mbwexe' farm, where you practice aquaculture. The farm has 300 tilapias. In January 2023 when they were first introduced, 30 fish were diagnosed with *Schyzocotyle* spp. infection. In February an additional, 40 were positively diagnosed. Fifty (50) of the fish died of infection. (*Show all calculations*)
   i) Calculate the one-month cumulative incidence. (**4 Marks**)
   ii)Calculate the two-month cumulative incidence for the disease. (**4 Marks**)
   iii) Calculate the incidence rate. (**4 Marks**)
   iii) Calculate the case fatality rate. (**4 Marks)**
   iv) Calculate the prevalence of infection **(4 marks**)

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