



# MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN POPULATION HEALTH

HEH 216: ENVIRONMENTAL PARASITOLOGY

DATE: 20/1/2021

TIME: 2.00-4.00 PM

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## INSTRUCTIONS

1. Answer Question one (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

## QUESTION ONE COMPULSORY (30 MARKS)

- a) Explain why man not suffer from malaria even after being fed on by female anopheles mosquitoes (3 marks)
- b) Briefly explain how typanosomes evade the immune system of the human host (3 marks)
- c) Briefly discuss the transmission and management of *Ascaris lumbricoides* (3 marks)
- d) Briefly explain the exo-erythrocytic life cycle of the malaria parasite (3 marks)
- e) Distinguish between the following:
  - i. *chemotherapy* and *chemoprophylaxis* (2 marks)
  - ii. *Intermediate* and *paratenic* host (2 marks)
  - iii. *Salivarian* and *stercorarian* disease transmission (2 marks)
- f) Outline three factors that could lead to failure of cure of a patient following chemotherapy against the malaria parasite (3 marks)
- g) Outline the adaptations to a parasitic mode of life of the endoparasitic liver fluke *Fasciola hepatica* (3 marks)
- h) Outline the responses of the parasite to the host after and during an infection (3 marks)
- i) Explain the concept “pleomorphism” (3 marks)

**QUESTION TWO (20 MARKS)**

- a) Explain the various modes of reproduction exhibited by *Plasmodium falciparum*.(10 marks)
- b) Explain why malaria still remains ranks highly as a human killer disease despite the advances in knowlegde on effective methods of its management (10 marks)

**QUESTION THREE (20 MARKS)**

Discuss how you would manage infections by *schistosoma mansoni* in a primary school located at Mwea rice irrigation scheme

**QUESTION FOUR (20 MARKS)**

Discuss the mechanisms of response of a human body following following infection by an endoparasite.

**QUESTION FIVE (20 MARKS)**

- a) Discuss the complications of chemotherapy against Human African Trypanosomiasis (10 marks)
- b) Using specific examples, distinguish between direct and indirect transmission of diseases of medical importance (10 marks)