



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

SECOND YEAR SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF SCIENCE IN PUBLIC HEALTH

PPH 205:ENTOMOLOGY, PEST AND PEST MANAGEMENT

DATE: 14/3/2022

TIME : 2:00 – 4:00 PM

INSTRUCTIONS

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

1. Compulsory (30 marks)

- i. With the use of an example, outline the characteristics of members of the class Siphonaptera 3 marks)
- ii. Explain the economic importance of the dog flea *Ctenocephalidis canis* to man 3 marks)
- iii. Explain how insecticide impregnated bednets help in the management of malaria 3 marks)
- iv. Explain how the house fly *Musca domestica* is a public health nuisance 3 marks)
- v. Explain the safe storage of insecticides of public health importance at home 3 marks)
- vi. Explain how nerve poisons work. 3 marks
- vii. Explain the economic importance of members of insect order Anoplura 3 marks
- viii. Briefly discuss the use of insects in medical practice 3 marks

- ix. Differentiate the following terminologies 3 marks
- a. Pyrethrin and pyrethroid
 - b. Insecticide and pesticide
 - c. Pterygote and apterygote
- x. Explain the concept of “management” of a population of a medical disease vector (3 marks)
2. a. Compare the characteristics of the classes Insecta and Arachnida 12 marks.
- b. Explain why and how mosquitoes are such efficient vectors of malaria. 8 marks
- 3 a. Discuss how you can manage infestation by rodents in a rural village 10 marks.
- b. Discuss the negative economic importance of insects 10 marks.
4. Discuss the regulation of insecticide use and how it is achieved in Kenya 20 marks
- 5 Compare the life cycles of the mosquito *Anopheles funestus* with that of the tsetse fly *Glossina fuscipes fuscipes* 20 marks