



W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2019/20190 EXAMINATION FOR THE DEGREE OF
YEAR I SEMESTER II EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN
PARASITOLOGY AND ENTOMOLOGY**

SZL 3123: LABORATORY METHODS IN PARASITOLOGY

DATE: FEBRUARY 2020

TIME: 3 HOURS

INSTRUCTIONS: Answer any four questions.

1. Discuss the basic principles of good laboratory practice and laboratory safety applicable for a biomedical sciences facility. (25 marks)
2. Outline the basic requirements for routine maintenance and care of laboratory rodents used in teaching and research. (25 marks)
3.
 - a. You have received a sample of whole blood from a patient who lives in an area known to be endemic for malaria and helminth infections. Describe how you would use haematological techniques to investigate the sample for suspected malaria and helminth infection. (18 marks)
 - b. Name Seven applications of haematological techniques in parasitology. (7 marks)
4.
 - a. Describe four parasite preservation methods used in protozoan culture that have found use in the advancement of science and human health. (16 marks)
 - b. Molecular biology techniques have found great use in research and clinical protozoology. Using specific examples discuss any three of these applications. (9 marks)
5.
 - a. Explain why blood feeding is a critical component of mosquito breeding under laboratory conditions. (4 marks)
 - b. Give detailed descriptions of three methods of mosquito blood feeding under laboratory conditions and indicate one advantage and one disadvantage of each method. (21 marks)
6. Briefly discuss the following molecular markers used in analysis of helminth parasites.
 - a. Restriction fragment Length Polymorphism (RFLP) (10 marks)
 - b. Simple Sequence Repeats (SSR) (15 marks)