MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
FOURTH YEAR FIRST SEMESTER EXAMINATIONS

FOR

THE DEGREE OF BACHELOR OF SCIENCE IN ZOOLOGY

COURSE CODE: ZOO 417
COURSE TITLE: IMMUNOLOGY 11

DATE: 23RD APRIL, 2019 **TIME: 1100 – 1300HRS**

INSTRUCTIONS TO CANDIDATES

Answer **ALL** the questions in **Section A** and **ANY TWO** questions in **Section B.**
Within a section, all questions carry equal marks. Illustrate your answers with well-labeled diagrams and give appropriate examples where possible.

SECTION A (30 MARKS)

Answer ALL questions (3 marks for each question).

1. (a) Why are pregnant mothers and children under five years more vulnerable to malaria than any other age group in human population? **(1 mark)**
   (b) Why is it easier to develop a vaccine against a virus than a protozoon? **(2 marks)**
2. (i) Why is Ag-ELISA preferred to Ab-ELISA during the diagnosis of parasitic infections in the tropics? **(1 mark)**
   (ii) Explain the importance of quality diagnosis in an epidemic situation**. (1 mark)**
3. State and explain three categories of a tumour. **(1 mark)**
4. State three different ways in which the lgG protects individuals against malaria parasites including both sporozoites and merozoites. **(1 mark)**
5. (i) What is an autoimmune disorder? **(1 mark)**
   (ii) Explain two ways in which AIDS patients lose their Helper T cells ($CD4^+$). **(2 marks)**
6. (i) What is an immunological tolerance? **(1 mark)**
   (ii) When do central and peripheral tolerances occur? **(2 marks)**
7. State and briefly explain 3 critical relationships between the transplanted material and the recipient. **(3 marks)**
8. State 3 basic types of "recognition" , which allows the host to know that the transplanted tissue/organ is foreign. **(3 marks)**
9. State any three evidences that tumours can elicit an immune response. **(Any three, 3 marks)**
10. (a), What is the basic differences between MHC Class I and MHC Class II molecules in immunology? **(1 mark)**
    (b) Why are people immunized in life? **(2 marks)**

SECTION B (40 MARKS)

Answer ANY TWO questions (20 marks for each question).

11. Discuss the biological functions of the various Toll-like receptors in immunology. **(20 marks)**
12. Using examples, discuss how parasites evade the hosts' immune response system. **(20 marks)**
13. Define hypersensitivity and discuss hypersensitivity reactions. **(20 marks)**
14. Discuss immunodeficiency disorders. **(20 marks)**

END