W1-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2025/2026

SPECIAL / SUPPLEMENTRY EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE

TIM 3100 : PRINCIPLES OF IMMUNOLOGY

DATE: JUNE 2026 **TIME: 3 HOURS**

INSTRUCTIONS:

Answer any four (4) questions ONLY.

Answer any 4 questions

1. With the aid of a flow diagram, describe the process of haematopoiesis (25 marks)

2. Describe the process of inflammation and its features (25 marks)

3. Discuss various medical applications of antibodies (25 marks)

4. a) Describe various immune defence mechanisms against;
   i. Bacterial infections (5 marks)
   ii. Parasitic infections (5 marks)
   iii. Viral infection (5 marks)
   b) Describe ways of generating B cell receptor diversity (10 marks)

5. (a) Give an account of granulocytes and their role in immune response (10 marks)
   (b) Elucidate how extracellular pathogens are destroyed through the process of phagocytosis (15 marks)

6. (a) Define the following terms;
   i. Herd Immunity (2 marks)
   ii. Self-MHC restriction (2 marks)
   iii. Hapten (2 marks)
   iv. Tolerogen (2 marks)
   v. Antigen processing (2 marks)
   (b) Describe various classification of adaptive immunity (10 marks)
   (c) Describe any five importance of colostrum to newborns (5 marks)