

# KISII UNIVERSITY

## DEPARTMENT OF MEDICAL PHYSIOLOGY

END OF FIRST YEAR EXAMINATION TOWARDS THE DEGREE OF  
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (M.B.Ch.B)  
(2021/22)

### MEDS 111: MEDICAL PHYSIOLOGY I (Paper 2)

DATE: September, 2022

TIME: 3HRS

#### SECTION A: SHORT ANSWER QUESTIONS (60 Marks)

1. Outline the classification and functions of leukocytes (5 marks)
2. Discuss the functions of cell membrane proteins (5 marks)
3. Describe the structure of at least two cell surface receptors and state three second messengers (5 marks)
4. Describe mechanisms by which the resting membrane potential is generated (5 marks)
5. Explain why parathyroid and aldosterone hormones are said to be essential for survival (5 marks)
6. By giving suitable examples, classify hormones (5 marks)
7. Discuss the role of the integumentary system in Vitamin D synthesis (5 marks)
8. State the differences between innate and Adaptive immunity (5 marks)
9. Describe blood Clotting and Hemostatic mechanism (5 marks)
10. Define Autoimmunity and list at least four autoimmune diseases (5 marks)
11. State five (5) ways in which glucocorticoids prevent inflammation in the body (5 marks)
12. Describe type 1 hypersensitivity reaction and give one example (5 marks)

## **SECTION B: LONG ANSWER QUESTION (40 Marks)**

**Attempt two Essay questions. Question ONE is Compulsory.**

1. Discuss systematically the mechanism of protein synthesis (20 Marks)
2. Discuss the complement immune system pathways indicating the clinical relevance (20 marks)
3. Discuss hormones of the hypothalamus with emphasis on secretion, effects as well as the Hypothalamo—pituitary – end organ axes by which these hormones achieve the various physiological outcomes (20 Marks)