

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE  
OF BACHELOR SCIENCE (BIOCHEMISTRY)**

**BMED 111: HUMAN PHYSIOLOGY**

**STREAMS: BMED**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 13/7/2016**

**11.30 A.M. – 1.30 P.M.**

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**INSTRUCTIONS:**

- **Answer question ONE and any TWO questions**
- **Do not write on the question paper**

**QUESTION ONE (30 MARKS)**

- (a) Explain how plasma membrane is involved in process of homeostasis. [5 marks]
- (b) Explain the role of gene expression in controlling homeostasis. [6 marks]
- (c) Outline major functions of the kidney. [5 marks]
- (d) Describe mechanism of renal ammoniogenesis and ammonia excretion. [5 marks]
- (e) Discuss phases of the cardiac action potential and their application in electrocardiogram analysis. [9 marks]

**QUESTION TWO (20 MARKS)**

- (a) State and explain the functions of any four hormones in the male reproductive system. [8 marks]
- (b) (i) Describe major phases and composition of gastric secretions. [7 marks]
- (ii) Explain the role of microbial flora in the large intestine. [5 marks]

**QUESTION THREE(20 MARKS)**

Discuss the mechanisms of body control systems under the following headings:

- (a) Negative feedback [10 marks]
- (b) Positive feedback [6 marks]
- (c) Feedforward control [4 marks]

**QUESTION FOUR(20 MARKS)**

- (a) Hemostasis is a 'perfect balance'. Discuss this statement. [10 marks]
  - (b) Discuss neurophysiology of thermoregulation. [10 marks]
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