



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN PUBLIC HEALTH

HPH 202: HUMAN ANATOMY AND PHYSIOLOGY II

DATE: 11/8/2021

TIME: 8:30 – 10:30 AM

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## INSTRUCTIONS:

This paper consists of two sections A and B

### SECTION A

#### Specific Instructions

- This section has one question
- The question is compulsory
- The question is 30 marks

### QUESTION ONE (30 MARKS)

- Describe the structure of the uterus (4 marks)
- Outline the ovarian phases of the menstrual cycle (3 marks)
- Draw a well labeled diagram of the functional unit of the kidneys (5 marks)
- Explain the functions of the kidney (3 marks)
- State the functions of the trachea (3 marks)
- Distinguish between the types of muscular contraction (3 marks)
- Explain mechanisms through which hormone secretion is controlled (3 marks)
- Alcohol consumption increases micturition. Explain (2 marks)
- Explain the process of digestion in the stomach (4 marks)

## **SECTION B:**

### **Specific Instructions**

- **This section has four (4) questions**
- **Answer any two (2) questions**
- **Each question is 20 marks**

### **QUESTION TWO (20 MARKS)**

- a) Describe the cortical hormones of the endocrine glands located superiorly to the kidneys and their functions. (10 marks)
- b) It was commonplace in the traditional African society for grandmothers to breastfeed newborns following a maternal mortality. Describe the physiology facilitating this phenomenon. (10 marks)

### **QUESTION THREE (20 MARKS)**

- a) A parent of a 4 year old boy confides in you that the boy's scrotal sacs have been empty since his birth, provide a detailed explanation to the mother on possible causes and how this would affect the physiology of the boy's reproduction. (10 marks)
- b) While describing the process of selective reabsorption in urine formation, explain why glucose is mostly found in urine of a patient with diabetes mellitus (10 marks)

### **QUESTION FOUR (20 MARKS)**

- a) Describe the cycle of breathing (10 marks)
- b) In reference to the hypothalamo-pituitary-thyroid axis, describe the release of thyroid hormones and their functions. (10 marks)

### **QUESTION FIVE (20 MARKS)**

- a) Draw a well labelled diagram of the digestive system (10 marks)
- b) Abdominal walls are predominantly comprised of skeletal muscles. Identify these muscles and their respective functions (10 marks)