



MACHAKOS UNIVERSITY

University Examinations 2019/2020 Academic year

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: 2/12/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS

This paper consists of two sections A and B

Section A is compulsory

Section B choose any two (2) questions

SECTION A (30 MARKS) COMPULSORY

QUESTION ONE (30 MARKS)

- a) State two (2) functions of the urinary bladder. (2 marks)
- b) Name the cells of the pancreatic islets and the hormones that each cell secretes. (3 marks)
- c) State 4 (four) ways in which insulin controls blood sugar (2 marks)
- d) Briefly explain the stimulus for the secretion of each trophic hormone (3 marks)
- e) State ways through which parathormone regulates serum calcium levels (3 marks)
- f) Briefly explain the functions of the vertebral column (3 marks)
- g) Identify special senses with their respective organs (3 marks)
- h) Differentiate between the endocrine system and the nervous system (2 marks)
- i) Outline the proliferative phase of the menstrual cycle (3 marks)
- j) Compare and contrast transmission of a nerve impulse in myelinated and unmyelinated fibres. (3 marks)
- k) Outline the structures of different types of blood vessels (3 marks)

SECTION B:

Specific Instructions

- **This section has four (4) question**
- **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. (12 marks)
- b) Using appropriate examples, describe the organization of the nervous system (8 marks)

QUESTION THREE (20 MARKS)

- a) Describe the renin angiotensin aldosterone mechanism (10 marks)
- b) More urine is usually passed during cold weather. Using a diagram, explain how urine is formed in the human body. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the circulation of the blood through the heart and the blood vessels (10 marks)
- b) Using a well labelled diagram describe the structure of the uterus. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Functional areas of the cerebrum enable individuals to perform complex activities in day to day life. Describe these areas and their roles (10 marks)
- b) During toilet training, a child is able to verbalize the urge to pass urine. Describe the processes leading to the sensation and actual passage of urine in an individual. (10 marks)