



MACHAKOS UNIVERSITY

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

**First Year First Semester Supplementary/Special University Examination for the Degree in
Bachelor of Science in Public Health**

HPH 101: HUMAN ANATOMY AND PHYSIOLOGY ONE

Date:

Time:

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

- a) Explain the roles of three hormones of the adrenal cortex (3 marks)
- b) Outline four (4) temporary structures in fetal circulation (2 marks)
- c) State the functions of the cytoplasm in a cell. (3 marks)
- d) Briefly describe functions of connective tissue (2 marks)
- e) Explain the functions of three (3) interdependent components of homeostatic control. (3 marks)
- f) Differentiate between cardiac muscles cells and skeletal muscle cell (3 marks)
- g) Compare and contrast transmission of a nerve impulse in myelinated and unmyelinated fibres. (3 marks)
- h) Explain the functions of kidneys (3 marks)
- i) Using a flow chart, illustrate the activation process of renin, angiotensin, aldosterone system (RAAS) in regulation of blood pressure (4 marks)
- j) Explain factors that delay the healing of fractures (4 marks)

SECTION B: CHOOSE ANY TWO (2) QUESTIONS. EACH QUESTION IS 20 MARKS

QUESTION TWO

- a) Describe the physiology of hearing (8 marks)
- b) Discuss the cell cycle in reproductive cells (12 marks)

QUESTION THREE

- a) With the aid of a diagram describe the conducting system of the heart (10 marks)
- b) Describe the process of urine formation (10 marks)

QUESTION FOUR

- a) Using relevant examples, describe movement of substances across the cell membrane. (10 marks)
- b) Describe the menstrual cycle. (10 marks)

QUESTION FIVE

- a) With the aid of a well labelled diagram of the skin, describe the layers of the epidermis of the skin. (12 marks)
- b) Describe the main nonspecific body defense mechanisms (8 marks)