

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER 2023/2024 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF EDUCATION (SCIENCE) AND BACHELOR
OF SCIENCE (GENERAL)**

ZOOL 222: HISTOLOGY

STREAM: R

TIME: 2 HRS

DAY: MONDAY[11.30A.M - 1.30P.M]

DATE: 08/04/2024

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



Instructions

Answer all questions in Section A and any **TWO** in Section B
 Section A is **40 marks** and Section B is **30 marks**

SECTION A (40 MARKS)**QUESTION ONE**

Briefly describe the functions of the following cells **(8 Marks)**

- a) Mast cells
- b) Red blood cells
- c) B cells of pancreas
- d) Osteoclasts

QUESTION TWO

Describe the role of human skin **(4 Marks)**

QUESTION THREE

Describe the structure, and function of the following epithelium **(8 Marks)**

- i. Transitional epithelium
- ii. Simple squamous epithelium
- iii. Stratified squamous keratinized epithelium
- iv. Simple columnar epithelium

QUESTION FOUR

Describe any **four** special features of apical epithelium **(4 Marks)**

QUESTION FIVE

Differentiate between the structure and functions of smooth and cardiac muscles **(4 Marks)**

QUESTION SIX

- a) Explain the role played by macrophages during maintenance and renewal of strong extracellular fibres in connective tissue? **(2 Marks)**
- b) What distinguishes cartilage from most other connective tissues? **(2 Marks)**

QUESTION SEVEN

- a) Outline the function of nerve tissue **(4 Marks)**
- b) Describe three types of nerve cell based on their structure **(6 Marks)**

SECTION B (30 MARKS)

QUESTION EIGHT

Using a well labelled diagram, describe the detailed structure of skeletal muscle and explain its mechanism of contraction **(15 Marks)**

QUESTION NINE

Illustrate and explain the function of tissue components of a cross section of human digestive system **(15 Marks)**

QUESTION TEN

Discuss the classification of connective tissues stating their characteristic features and function **(15 Marks)**

