



(Knowledge for Development)

KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

SECOND YEAR FIRST SEMESTER

MAIN EXAMINATIONS

**FOR THE DEGREE OF BACHELOR OF SCIENCE (BIOLOGY) AND
BACHELOR OF AGRICULTURE EDUCATION AND EXTENSION (BEE)**

COURSE CODE: SZL 211

COURSE TITLE: CELL BIOLOGY

DATE: 22ND DECEMBER 2022

TIME: 2.00 – 4.00 PM

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

1. (3Marks)
- a) Define the following terms as used in cell biology
- i) Cell cycle
 - ii) G1 phase
 - iii) G2 phase
- b) Give the three principles of the cell theory (3Marks)
- c) List three major functions of Golgi apparatus (3 marks)
- d) Name any three signal transducers (2Marks)
- e) Differentiate between simple and facilitated diffusion. (3Marks)
- f) Describe the structure and functions of lysosomes (2Marks)
- g) Give the functions of centriole (2Marks)
- h) Describe the structure and function of mitochondrion (2Marks)
- i) What is meant by the term ultrastructure (2Marks)
- j) Describe briefly the process of phagocytosis (2Marks)
- k) Differentiate microtubules and microfilaments (2Marks)
- l) Distinguish between the terms ligand and receptor (1Mark)
- m) Define the term cell junction. (20Marks)
2. Describe the cell cycle and explain what happens during each part (20Marks)
3. Describe the structure and function of any ten cell organelles in animal cell (20Marks)
4. Discuss the various mechanisms by which substances move cross membranes? (20Marks)
- 5 Explain apoptosis in terms of its importance, main pathways and how it is regulated (20 Marks)