



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER MAIN EXAMINATION

**FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE) (B. ED
SCIENCE) AND BACHELOR OF SCIENCE (AGRICULTURE
EDUCATION AND EXTENSION)**

COURSE CODE: SZL 211

COURSE TITLE: FUNDAMENTALS OF CELL BIOLOGY

DATE: Friday 18th June, 2021. **TIME:** 2:00 -4:00 p.m.

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

Q1.

- a) State the functions of the following organelles 2mks
- i) Lysosomes
 - ii) Ribosomes
- b) Define the following terms 2mks
- i) Ultrastructure
 - ii) Passive transport
- c) Distinguish between exocytosis and endocytosis 2mks
- d) Give any two roles of peroxisomes 2mks
- e) Differentiate between diffusion and osmosis? 2mks
- f) Give the functions of plasma membrane 2mks
- g) What is gated ion channel 2mks
- h) What is carrier-mediated transport? 2mks
- i) Differentiate between facilitated diffusion and active transport. 2mks
- j) State the three principles of cell theory 3mks
- k) Name three structures found in plant cells but absent in animal cells. 3mks
- l) Write short notes on Nucleolus. 3mks
- m) Briefly explain the structure and functions of lysosomes 3mks

Q2. Discuss various types of cell signals in multicellular organisms 20mks

Q3. Discuss the various processes involved in transport of materials across membranes 20mks

Q4. Compare and contrast the structure of prokaryotic and eukaryotic cell 20mks

Q5. a) Describe fluid mosaic model of plasma membrane 8mks

b) Write a detailed account on cytoskeleton structures and their functions. 12mks