



**FreeExams.co.ke**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS**

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

**COURSE CODE: SZL 211/ SBL 311**

**COURSE TITLE: CELL BIOLOGY/ FUNDAMENTALS OF CELL BIOLOGY**

**DATE: 16<sup>TH</sup> AUGUST 2023**

**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



1.

- a) Distinguish between resolution and magnification (2Marks)
- b) Briefly explain the term phosphorylation (2Marks)
- c) Define the term cytokinesis (2Marks)
- d) State three functions of the cell membrane (3Marks)
- e) Give the significance of mitosis (3Marks)
- f) What role do ribosomes play in the cell (2Marks)
- g) Describe the structure and of nucleolus. (3Marks)
- h) Briefly describe the gap junction (2Marks)
- i) Describe the process of exocytosis (3Marks)
- j) Outline the processes that occur in a cell during interphase (4Marks)
- k) Briefly describe receptor mediated Endocytosis (2Marks)

2. Compare and contrast the prokaryotic and eukaryotic cells (20Marks)

3. Explain the major stages involved in the process of meiosis (20Marks)

4. Describe the cytoskeleton structures and their functions (20Marks)

5. Describe the process of cell signaling and transduction (20Marks)