

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF BIOMEDICAL SCIENCE AND
TECHNOLOGY**

BMED 211: MEDICAL CELL BIOLOGY

STREAM: R

TIME: 2 HRS

DAY: THURSDAY [8.30 – 10.30 A.M]

DATE: 05/02/2026

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS ANSWER ALL THE QUESTIONS IN SECTION A AND ANY TWO IN SECTION B.

SECTION A: 40 MARKS

QUESTION ONE

Briefly explain how rough and smooth endoplasmic reticulum differ in terms of function. **(4 Marks)**

QUESTION TWO

List major differences between prokaryotic and eukaryotic cells. **(4 Marks)**

QUESTION THREE

State important functions of membrane compartmentalization. **(3 Marks)**

QUESTION FOUR

Differentiate between:

i. Cytoplasm and cytosol **(3 Marks)**

ii. Extrinsic and transmembrane proteins **(4 Marks)**

QUESTION FIVE

State characteristics of the genetic code. **(4 Marks)**

QUESTION SIX

Define and state the role of cell junctions **(3 Marks)**

QUESTION SEVEN

Distinguish between endocytosis and exocytosis **(5 Marks)**

QUESTION EIGHT

Outline the causes of non-mendelian inheritance **(5 Marks)**

QUESTION NINE

Explain the importance of peroxisomes in the liver cells. **(5 Marks)**

SECTION B; ANSWER TWO QUESTIONS ONLY

QUESTION TEN (15 MARKS)

Compare and Contrast between typical eukaryotic and prokaryotic cell. **(15 Marks)**

QUESTION ELEVEN (15 MARKS)

Discuss the three Laws of inheritance. **(15 Marks)**

QUESTION TWELVE (15 MARKS)

Describe the lipid bi-layer structure of the plasma membrane **(15 Marks)**