

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION**

**RESIT /SPECIAL EXAMINATION**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN  
BIOMEDICAL**

**BMET 212: MEDICAL CELL AND STRUCTURAL BIOLOGY**

**STREAMS:**

**TIME: 2 HOURS**

**DAY/DATE: THURSDAY 04/11/2021**

**2.30 P.M – 4.30 P.M**

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**INSTRUCTIONS:**

Answer question **one** and **any other two** questions

**Questions**

**Question 1 (Compulsory) (30 marks)**

- a) Explain the difference between keratinocytes and melanocytes. (4 Marks)
- b) Compare and contrast between eukaryotic and prokaryotic cell. (6 Marks)
- c) Describe how cilia are structurally equipped to produce cell movement. (5 Marks)
- d) Describe the adaptations of Golgi Apparatus that enables it carry its functions. (5 marks)
- e) Briefly describe the structure of nucleosome (5marks)
- f) Explain the structure of cytoskeleton of a cell. (5 marks)

**Question 2 (20 marks)**

- a) Describe 5 types of intercellular junctions found on the lateral surface of plasma membrane. (10 marks)
- b) Explain the stages in prophase I of Meiosis I in cell division. (10 marks)

**Question 3 (20 marks)**

- a) Describe the structural adaptations of the mitochondrion that enable it to carry out its functions in a cell. (10 marks)

- b) Describe the structural adaptations of the mitochondrion that enable it to carry out its functions in a cell. (10 marks)

**Question 4 (20 marks)**

- a) Discuss the clinical significance of tumor markers. (10 marks)  
b) In detail, describe four types of chromosomes according to centromere position. (10 marks)
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