

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR SCIENCE IN BIOMEDICAL TECHNOLOGY**

BMET 101: INTRODUCTION TO BIOMEDICAL SCIENCES

STREAMS: BSC (BMET)

TIME: 2 HOURS

DAY/DATE: FRIDAY 18/12/2020

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS: Answer question ONE (Compulsory) and any other TWO questions

QUESTION 1 (30 MARKS)

- (a) Highlight 3 differences between prokaryotic and eukaryotic cell [6 marks]
- (b) Explain any three duties of a biomedical scientist [6 marks]
- (c) Describe the particulate theory of matter [5 marks]
- (d) Differentiate between sensitivity and specificity [4 marks]
- (e) Explain the difference between negative and positive feedback mechanisms in homeostatic. Give specific example in each case. [6 marks]
- (f) Explain modern cell theory [3 marks]

QUESTION 2 (20 MARKS)

- (a) Explain any 5 professional ethical guidelines for a biomedical scientist. [10 marks]
- (b) Discuss areas of specialization for a biomedical scientist [10 marks]

QUESTION 3 (20 MARKS)

- (a) Describe 6 levels of structural organization of human body [12 marks]
- (b) Describe the structure of the cell membrane [8 marks]

QUESTION 4 (20 MARKS)

- (a) Explain the following terms:
- (i) Calibration
 - (ii) Verification
 - (iii) Validation
 - (iv) Ex-vivo
 - (v) In-vivo [10 marks]
- (b) Describe 3 tissue types found in a human body [10 marks]
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