

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL

EXAMINATIONS FOR THE AWARD OF DEGREE OF BACHELOR SCIENCE IN  
BIOCHEMISTRY

BIOC 423: SPECIAL METABOLISM

STREAMS: BSC (BIOC)

TIME: 2 HOURS

DAY/DATE: THURSDAY 04/02/2021

5.00 P.M. – 7.00 P.M.

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INSTRUCTIONS:

SECTION A: ANSWER ALL THE QUESTIONS

TOTAL = 50 MARKS

1. Discuss bacteria chemotaxis. (10 marks)
2. Using structural and chemical formulae describe the formation of bile pigments in the spleen and explain how they are excreted (15 marks)
3. (a) Distinguish between Graded potential and Pacemaker potential'. (15 marks)  
(b) Discuss five phases of action potential. (15 marks)
4. Three (3) hormones have been implicated in maintaining calcium homeostasis.  
(a) Name them and describe their role during ossification.  
(b) Discuss the bone disorders associated with deficiency of 1, 25-dihydroxycholecalciferol. (10 marks)

SECTION A: ANSWER ANY TWO QUESTIONS

TOTAL = 20 MARKS

5. (a) List five proteins involved in skeletal muscle contraction.  
(b) Describe energy metabolism during muscle contraction (10 marks)
  6. Describe the mechanism of action of antidepressants and mood stabilizers. (10 marks)
  7. Various methods are used to manage nociception. Discuss the major physical methods used to alleviate pain. (10 marks)
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