

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF 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**

- Answer All the Questions
- Do not write on the question paper

**QUESTION ONE (30 MARKS)**

- (a) Discuss the termination of phototransduction cascade. **(5 Marks)**
- (b) Using structural and chemical formulae describe **hemecatabolism** in the spleen. **(10 Marks)**
- (c) Describe energy metabolism during cardiac muscle contraction. **(10 Marks)**
- (d) List and describe 5 types of ion channels. **(5 Marks)**

**QUESTION TWO (20 MARKS)**

- (a) Discuss the mode of action and versatility of G-protein coupled receptors. **(10 Marks)**
- (b) List all the serotonin receptor subtypes of 5HT1 and 5HT2 groups and explain their role in serotonergic transmission. **(10 Marks)**

**QUESTION THREE (20 MARKS)**

(a) Discuss major properties of neuropeptides. **(8 Marks)**

(b) Describe the physiological significance of the following neuropeptides?

(i) Enkephalins

(ii) Angiotensin II

(iii) Substance P

(iv) Neurotensin

**(3x4 Marks)**

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