

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION
RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
BIOCHEMISTRY**

BIOC 418: COMPARATIVE ANIMAL BIOCHEMISTRY

STREAMS:

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 03/11/2021

2.30 P.M - 4.30 P.M.

INSTRUCTIONS

- *Answer question ALL questions*

Questions

1. Question 1 (30 marks)

- Describe how bony fishes, humans, birds and reptiles excrete their nitrogenous waste (5 Marks)
- Describe the major volatile fatty acids products produced by ruminant animals and their metabolic fate of the products (6 marks)
- Describe trehalose biosynthesis in insects and state its significance (5 marks)
- Explain the key differences between energy metabolism in fish and mammals (4 marks)
- Describe the products of protein catabolism in humans and the fate of the products (10 marks)

2. Question 2 (20 marks)

- (i) Describe lipogenesis in ruminants (10 marks)
(ii) Highlight the key difference between the lipogenesis in ruminants and non- ruminant animals (4 marks)
- Describe protein metabolism in ruminants (6 marks)

3. Question 3 (20 marks)

a) Describe the energy requirement in migratory birds and highlight the main difference between energy requirement in such birds and running mammals (10 marks)

b) Describe fatty acid mobilization in insects (10 marks)

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