

CHUKA UNIVERSITY

ZOOL 301: ANIMAL SYSTEMATICS AND EVOLUTION: BSC BIOLOGY

RESIT/SUPPLEMENTARY EXAM MAY 2025

ANSWER ALL QUESTIONS IN SECTION A AND ANY TWO FROM SECTION B

SECTION A (30marks)

- Q1. i) State what the theories of evolution listed below advocate for: - (3marks)
- a. Great chain of being theory
 - b. Catastrophism theory
 - c. Larmack's theory
- ii) Describe how geographical isolation of a species may lead to speciation (3marks)
- Q2. i) Give your understanding of the following terms as used in animal systematics
- a. Monophyletic group (2marks)
 - b. Polyphyletic group (2marks)
- ii) State four eras of the geological time scale (2marks)
- Q3. a) Give reasons why Australia fauna are used as evidence of evolution (3marks)
- b) Give the significance of continental drift in evolution (3marks)
- Q4. a) Outline the changes that took place in the evolution of man (4marks)
- b) Describe the modification of teeth in the evolution of the horse (2marks)
- Q5. a) Describe the evolutionary advances of reptiles over amphibians and fishes (3marks)
- b) Explain structural modifications that enabled birds to colonize different habitats (3marks)

SECTION B (40MARKS)

- Q6. By reference to Darwin' finches, discuss "Adaptive radiation" in animals (20 marks)
- Q7. Illustrate and explain the vertebrate cladogram (20marks)
- Q8. Giving examples, Discuss Natural Selection in animals (20 marks)