

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE
AND BACHELOR OF EDUCATION SCIENCE**

ZOOL 301: ANIMAL SYSTEMATICS AND EVOLUTION

STREAMS: BSC (SC), B.ED (SCI) Y3S1

TIME: 2 HOURS

DAY/DATE: TUESDAY 11/12/2018

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- **Answer all questions from section A and any two from section B**

SECTION A (30 MARKS)

Q1. Explain the difference between the following terms:

- (a) Mesozoic and cenozoic era (2 marks)
- (b) Palaeocene and Holocene (2 marks)
- (c) Triassic and Jurassic (2 marks)

Q2. (a) Illustrate and describe the carbon dating process. (4 marks)

- (b) Explain why carbon dating is not suitable for dating fossils $> 70,000$ years old. (2 marks)

Q3. Describe the following theories of evolution

- (a) Catastrophism theory. (2 marks)
- (b) Creation theory. (2 marks)
- (c) Larmack's theory (2 marks)

Q4. Describe two evidences that explain continental distribution of animals. (6 marks)

Q5. (a) Describe the evolutionary advances of reptiles over amphibians and fishes. (3 marks)

- (b) Explain the structural modifications that enabled birds to successfully colonize different habitats. (3 marks)

SECTION B (40 MARKS)

- Q6. Discuss divergent evolution in animals. (20 marks)
- Q7. Describe the evolutionary changes that have led to the “modern man” Homosapiens species. (20 marks)
- Q8. (a) Discuss isolating mechanisms that lead to speciation. (10 marks)
- (b) Discuss causes of variation in animals. (10 marks)
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