

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

RESIT EXAMINATION

**EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN WILDLIFE MANAGEMENT**

WIEM 311: VERTEBRATE POPULATION DYNAMICS (3.0 CF)

STREAMS: BSc. WIEM (Y3S1)

TIME: 2 HOURS

DAY/DATE: TUESDAY 17/11/2020

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS

- Answer all questions in section **A** and any two in section **B**
- Section A carries 30 marks and section B 40 marks

SECTION A (30 marks)

- Q1. State the meaning of the following terms
- a) Cosmopolitan species (1 mark)
 - b) Hemi-population (1 mark)
 - c) Herbivory (1 mark)
 - d) Ecological equivalence (2 marks)
- Q2. Briefly discuss the importance of migration in wildlife species persistence (5 marks)
- Q3. Briefly explain how the per capita rate of increase (r) influences changes in the population of wildlife species (4 marks)
- Q4. Briefly discuss four stochastic events and how they impact on wildlife populations (4 marks)
- Q5. Enumerate the advantages and disadvantages of clumped distribution in wildlife populations (4 marks)

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- Q6. Briefly explain source sink dynamics in the management of meta-populations (4 marks)
- Q7. Distinguish between the following terms
- a) Fundamental niche and realized niche (2 marks)
 - b) Contest competition and scramble competition (2 marks)

SECTION B (40 marks)

- Q8. Discuss the factors that influence wildlife population growth. (20 marks)
- Q9. a) Given that $r = 0.10$ and $N=1000$. Calculate the population size from the initial Population up to the 10th generation (10 marks)
- b) Discuss exponential and geometric growth in density independent population models (10 marks)
- Q10. Citing appropriate examples, discuss the various prey capture methods utilized by predators and how prey try to counter them (20 marks)
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