



NATIONAL OPEN UNIVERSITY OF NIGERIA

National Open University Of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
JULY 2017 EXAMINATION

COURSE TITLE: ANIMAL ECOLOGY

COURSE CODE: BIO 313

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS

1. (a). Using Figure 1 below, briefly explain on the relationship between k-value and mortality. **10 marks**

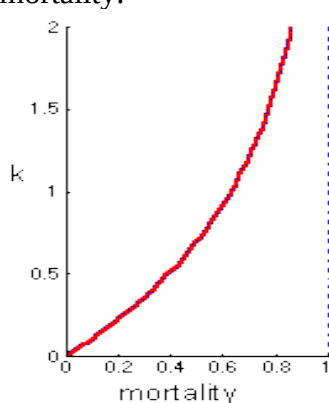


Figure 1. Relationship between mortality and the k-value.

- b. Discuss any three abiotic factors that affect population. **9 marks**

- (c). Summarise the main types of symbiotic relationships in a table listing the type of relationship and the expected outcomes. **6 marks**

2. Differentiate between the following pairs of terms:
- | | | |
|-------|--|----------------|
| (i) | Ecosystem and Ecology | 3 marks |
| (ii) | Composition and diversity | 2 marks |
| (iii) | Habitat and ecological niche | 2 marks |
| (iv) | Fundamental niche and realised niche | 2 marks |
| (v) | Competition and predation. | 2 marks |
| (vi) | Static life table and population growth rate | 2 marks |
| (vii) | Factor analysis and K-value in the identification of | |

key-factors of population dynamics

2 marks

3. Write briefly on the different types of competition by:

(i). mechanism

6 marks

(ii). species

9 marks

4. (a). What is animal population control? Discuss briefly the main biotic factors that may limit animal population growth.

6 marks

(b). Using appropriate graphs, explain how competition can lead to: (i). Extinction and (ii). Resource partitioning

9 marks

5. (a). With a clearly labelled schematic diagram, discuss an ocean detritus food web.

12marks

(b). What is the limitation of the k-value concept and why is it difficult to estimate k-value in natural populations

3 marks