# NATIONAL OPEN UNIVERSITY OF NIGERIA
# 14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
## SEPTEMBER/OCTOBER 2015 EXAMINATION
## SCHOOL OF SCIENCE AND TECHNOLOGY

**COURSE CODE:** **BIO 313**

**COURSE TITLE:** **ANIMAL ECOLOGY**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS**

1. (a). 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**

   (b). (i). What is age distribution of population? **2 marks**

   (ii). Using schematic diagrams, differentiate among the three kinds of population defined by age distribution. **6 marks**

   (iii). Define competition in relation to animal species **2 marks**

2. Write briefly on the different types of competition by:
   - (i). mechanism **6 marks**
   - (ii). species **9 marks**

3. (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**

4. (a). Using Figure 1 below, briefly explain on he relationship between k-value and mortality. **4 marks**

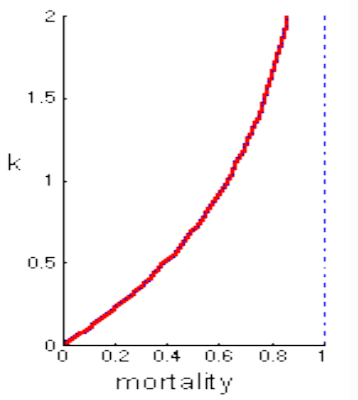


Figure 1. Relationship between mortality and the k-value.

(b). What does Figure 2 below signify? Discuss briefly the features of the chart.
**5 marks**

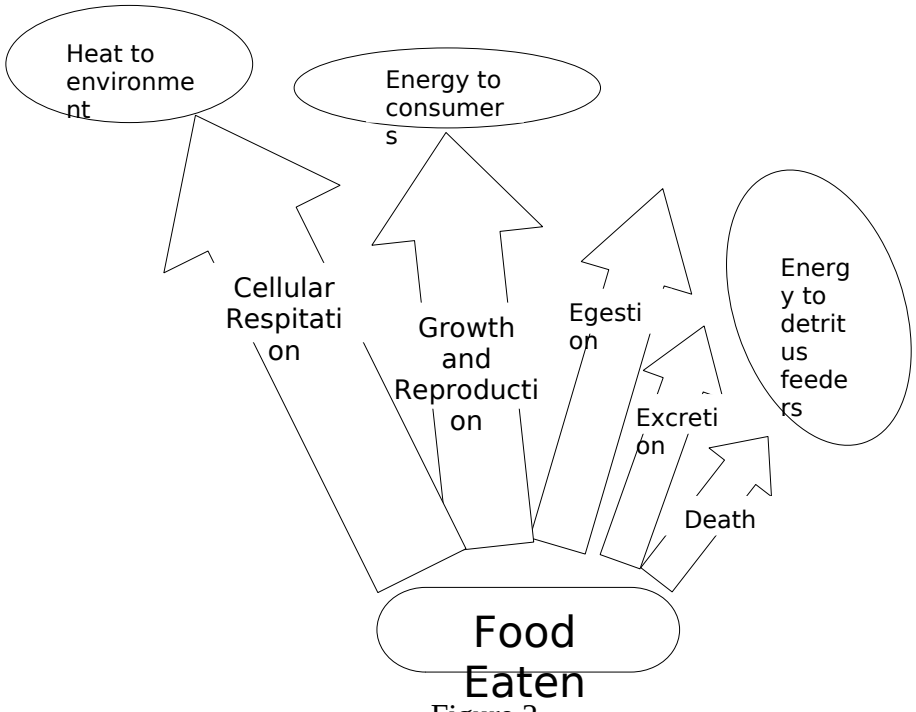


Figure 2

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

6. Discuss any thee abiotic factors that affect population. **15 marks**