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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Express way, Jabi-Abuja.**

 **Faculty of Sciences**

**DEPARTMENT OF PURE AND APPLIED SCIENCE**

**NOVEMBER 2018 EXAMINATION**

**COURSE CODE: BIO 313**

**COURSE TITLE: ANIMAL ECOLOGY**

**CREDIT UNIT: 2**

**TIME: 2HOURS**

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

**1**. Based on behavioural ecology of African mammals, write short notes on:

1. Proximate causation. **5marks**
2. Optimization theory. **5marks**
3. Differential reproductive success. **5marks**
4. With examples, give a brief account on how the environment and human interaction has changed the scope of animals. **10 marks**

**2**a. What is the meaning of the following terms?

1. Intraspecific competition **1 ½ marks**
2. Interspecific competition **1 ½ marks**

b. Explain the following types of competition:

 i. Interference competition **4marks**

 ii. Exploitation competition **4marks**

 iii. Apparent competition **4marks**

**3**a. i. Describe survivorship curve. **5marks**

 ii. State the importance of stage-dependent life-tables. **3marks**

 b. i. Define the term population cycle. **2marks**

 ii. Explain the relationships between Predators and Prey. **5marks**

**4**a. What is animal ecology? **5marks**

 b. Outline the biology and ecology of Sardine (*Sardnella* *spp*) **10marks**

**5**a. Write short notes on the following:

 i. population density **8marks**

 ii. population size **5marks**

 b. List the factors that affect population size. **2marks**