

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES AND BACHELOR OF EDUCATION SCIENCE

**SZA 3100: ECOLOGY BIOANALYSIS**

**DATE: NOVEMBER, 2015 TIME:** $2 $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. List the four levels of study in ecology. (4 Marks)
2. Distinguish between the following;
3. Autecology and synecology (2 Marks)
4. Intraspecific competation and Interspecific competition (2 Marks)
5. K strategist and r-strategists. (2 Marks)
6. Food chain and food web (2 Marks)
7. Explain briefly the two components of an ecosystem. (4 Marks)
8. Explain briefly the important role of the following in an ecosystem;
9. Detritovores (3 Marks)
10. Autotrophs (3 Marks)
11. Explain the four different types of species one is likely to find in any ecosystem(4 Marks)
12. Outline any four characteristics of a theoretical population. (2 Marks)
13. List the four categories of environmental factors that affect the form and function of plant life. (2 Marks)

**QUESTION TWO (20 MARKS)**

Discuss the methods of measuring primary productivity. (20 Marks)

**QUESTION THREE (20 MARKS)**

Discuss the Bio-Geo chemical cycle across the different compartments of the ecosystem.

 (20 Marks)

**QUESTION FOUR (20 MARKS)**

Discuss the interaction of species in the ecosystem. (20 Marks)

**QUESTION FIVE (20 MARKS)**

Explain the different factors that regulate population density. (20 Marks)