



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2016/2017**

**FOURTH YEAR SECOND SEMESTER EXAMINATION FOR  
THE DEGREE OF BACHELOR OF SCIENCE IN FISHERIES  
AND AQUACULTURE AND BACHELOR OF SCIENCE IN  
AQUATIC RESOURCES CONSERVATION AND DEVELOPMENT  
WITH INFORMATION TECHNOLOGY**

**MAIN CAMPUS**

**AFN 406: STEWARDSHIP IN SCIENCE; ECOLOGY & SOCIETY**

Date: 1<sup>st</sup> August, 2017

Time: 8.30 - 11.30am

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**INSTRUCTIONS:**

- Answer ALL Questions in Section A
- Answer Question 9 and any other THREE in Section B.
- Illustrate answers with labeled diagrams whenever appropriate.



## SECTION A (40 Marks)

Answer all the questions in this section

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- Q1. Define the term ecosystem and give the main common features in all ecosystems. (5 marks).
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- Q2. Explain growth and reduction factors that area at interplay in ecosystem balancing. (5 marks).
- Q3. Contrast characteristics of climax stage of ecological succession with that of immature ecosystem. (5 marks).
- Q4. Debate the following statement; „Human population is the cause of all the world’s problems. “ (5 marks).
- Q5. Explain the following
- (a). Cultural eutrophication (2 marks).
  - (b). Confusion techniques of pest control (3 marks).
- Q6. Give possible impacts of overgrazing, and overfishing on the environment and relevant human societies involved. (5 marks).
- Q7. Relate loss of biological diversity in any one ecosystem you may be familiar with; to named anthropological activities. (5 marks).
- Q8. Give the ecological basis for the benefits achieved from the following:
- (a). Contour farming (2 marks).
  - (b). Crop rotation (3 marks).

## SECTION B (30 Marks)

Answer Q9 and any other three questions in this section

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- Q9. In the 1970s, an artificial isthmus was constructed on the Rusinga Channel that joined Rusinga Island on the Kenyan part of Lake Victoria with the nearby mainland. This decision has since been reversed and currently the isthmus is being/has been demolished. The reasoning for the latter action has been based on the ecological understanding of the situation“. Explain from your ecological knowledge and understanding of the said lacustrine environment. (9 marks)
- Q10. State the application of ecological science knowledge on the maintenance of the earth’s life support system. (7 marks) „

Q11. The Nobel Laureate, the late Professor Wangari Mathai once said; „the environment, if mistreated can revenge, and once the revenge process has begun, it can neither be halted nor reversed“. Discuss. **(7 marks)**

Q12. Describe the advantages and disadvantages (for each case); that resulted from the evolution of agriculture and animal husbandry to:

(a). The general environment **(3 marks)**

(b). The traditional human society. **(4 marks)**

Q13. Write an essay on „Ecological factors that cause extinction“. **(7 marks)**

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