**UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2015/2016 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN MICROBIOLOGY**

**COURSE CODE: MIC 212**

**COURSE TITLE: ENVIRONMENTAL MICROBIOLOGY**

**DATE: 4/4/2016**

**TIME: 2.00 P.M- 5.00 P.M**

**INSTRUCTIONS TO CANDIDATES:**

Answer any **TEN** (10) questions

All questions have equal marks (7 marks)

Give suitable diagrammatic illustrations where necessary.

*Attempt ANY TEN questions in this paper.*

1. Outline the difference between the following. (7 marks)

 a. Fundamental and realized niche

 b. Indigenous and non-indigenous microorganisms

 c. Nitrification and ammonification

2. Discuss the clinical symptoms of Shigellosis (Bacillary dysentery). (7 marks)

3. With reference to specific microorganisms as producers, consumers and decomposers; discuss energy transfer in an ecosystem. (7 marks)

4. Describe the following:

 a. Human and other mammalian pathogens found in soil. (4 marks)

 b. Major aquatic enteric microbes. (3 marks)

5. Explain how different Sulphur bacteria obtain energy from elemental sulphur and sulphides. (7 marks)

6. State characteristics of viral food borne infections. (7 marks)

7. Explain mechanisms of biological control of plant pathogens. (7 marks)

8. Discuss epidemiology and control of Salmonella food poisoning. (7 marks)

9. Write short notes on spoilage of milk and milk products by microorganisms. (7 marks)

10. State the characteristics of coliform organisms and explain why they are suitable microbial indicator of drinking-water quality. (7 marks)

11. Outline major steps involved in sampling dug well water for microbial analysis. (7 marks)

12. Describe aflatoxicosis. (7 marks)