



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

**SECOND YEAR FIRST SEMESTER EXAMINATIONS 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 203: AQUATIC POLLUTION**

Date: 8<sup>th</sup> December, 2016

Time: 12.00 - 3.00 pm

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**INSTRUCTIONS:**

- Answer ALL questions in SECTION A and in SECTION B answer any other THREE questions.
- Illustrate your answers with well labeled diagrams where appropriate.

**Section A: Answer ALL questions from this section (40 marks)**

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1. Define the following terminologies
  - a) Ghost fishing (2marks)
  - b) Volatilization (2 marks)
2. Outline any FOUR reasons why toxic organic pollutants are considered a major threat to aquatic ecosystems (4 marks)
3. In order for biomagnification to occur, a pollutant must fulfill FOUR conditions. Outline these conditions. (4 marks)
4. Indicate any FIVE ways in which recycled wastewater can be re-used within an urban setting. (5 marks)
5. a). Briefly describe the TWO methods used in measuring the quality of water (levels of pollution) in the aquatic environment. (2marks)  
b) List THREE natural processes through which wastewater is rendered less harmful to the environment once it enters the aquatic system (3 marks)
6. Highlight THREE major reasons that have led to the production release of Persistent Organic Pollutants into the environment. (3marks)
7. a). Explain why suspended contaminants and bacterial impurities are not regarded as serious threats in groundwater pollution. (2 marks)  
b). Give TWO reasons why treatment of polluted underground water through natural the processes is slow compared to surface waters. (2 marks)
8. Highlight the TWO major components of a typical septic tank system used in treating of domestic wastewater (2 marks)
9. Briefly describe THREE methods that are commonly used to disinfect treated wastewater before it is released into the natural environment. (6 marks)
10. Outline THREE main reasons which have made plastics to be considered a major concern as an aquatic pollutant (3 marks)

**Section B: Answer any THREE questions from this section (30marks)**

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11. With the help of appropriate diagram(s), discuss the major types of constructed wetlands, based on water flow conditions (10marks)
12. Discuss the different methods of secondary wastewater treatment that are commonly used in industrial and municipal treatment plants (10 marks)
13. Describe any FIVE statutory control measures and guiding principles that can be adopted by governments and pollution regulators to ensure effective mitigation of aquatic pollution (10 marks)
14. Discuss the major effects of aquatic thermal pollution on the biota of the receiving aquatic environment (10 marks)

END OF PAPER

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