



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

**FOURTH YEAR FIRST SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL  
SCIENCE WITH INFORMATION TECHNOLOGY**

**MAIN CAMPUS**

**NES 406: WATER QUALITY ASSESSMENT & MONITORING**

Date: 11<sup>th</sup> January, 2016

Time: 11.00 - 1.00 pm

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**INSTRUCTIONS:**

- Answer Question ONE (COMPULSORY) and any other TWO Questions.



1. (a) Explain important natural chemical processes that affect the quality of fresh water bodies. (6mks)  
(b) Discuss the probable health risks of concern to human use of various waters. (9mks)  
(c) (i) Provide the preliminary questions critical to establishing water assessment and monitoring objectives. (7mks)  
(ii) Explain the typical monitoring objectives in water quality analysis and monitoring. (8mks)
2. Discuss different categories of the biological methods used in water quality analysis and monitoring. (20mks)
3. (a) Discuss the importance of reporting data from a water monitoring process. (6mks)  
(b) Recommend water purification means that can be used for shorelines receiving discharges from unprotected catchments basin. (14mks)
4. (a) Prepare a comprehensive field-work checklist for water quality monitoring activities. (10mks)  
(b) Recommend precautionary measures to the challenges that normally compromise the quality of data collected during field sampling, field testing and laboratory analysis of water parameters. (10mks)
5. (a) Explain the factors that have to be considered in selecting a sampling site for water quality monitoring. (6mks)  
(b) Discuss the principle elements of a study plan for water quality assessment and monitoring. (14mks)
6. (a) With examples and illustrations, describe the potential water quality characteristics of groundwater as occurs in confined and unconfined aquifer. (9mks)  
b) Explain how you would establish stream flows. (11mks)

