



**UNIVERSITY OF SWAZILAND**  
Faculty of Health Sciences

**Department of Environmental Health Science**

Main Examination 2013

BSc. in Environmental Health Science

Title of paper: WATER QUALITY MANAGEMENT 1

Course code: EHS 582

Time allowed: 2 HOURS

Marks allocation: 100 Marks

**Instructions:**

- 1) Answer **ANY FOUR** questions
- 2) Each question is weighted 25 marks
- 3) Write neatly and clearly
- 4) Begin each question in a separate sheet of paper

This paper is not to be opened until the invigilator has granted permission

Main Examination: November, 2013.

EHS 582 I

**Question 1.**

- a) Discuss how would you go about collecting data for an analysis of the water budget of your area of jurisdiction. (10)
- b) What agencies would you contact? (8)
- c) What other sources of information would you seek out? (7)

**TOTAL 25 MARKS**

**Question 2.**

“There are a series of microbial activities occurring along the flow direction of groundwater initially containing some organic compounds”

- a) Describe the reactions which take place under these conditions. (15)
- b) Why do they occur in the observed sequence? (10)

**TOTAL 25 MARKS**

**Question 3.**

- a) With an aid of a diagram sketch a Water Resources System and corresponding types of standards and/or regulations that can be applied to manage water quality. (15)
- b) What are the corresponding monitoring points in this system? (10)

**TOTAL 25 MARKS**

**Question 4.**

Write short notes on the Public Health Impacts of the following:

- a) Water and Diseases. (5)
- b) Waterborne mechanism. (5)
- c) Water based mechanism. (5)
- d) Water washed mechanism. (5)
- e) Insect vector mechanism. (5)

**TOTAL 25 MARKS**

**Question 5.**

The so called Vollenweider Model is commonly used for prediction of eutrofication in Lakes and Reservoirs.

- a) Discuss the assumptions that are made in developing this model. (15)
- b) By means of a diagram describe this model. (10)

**TOTAL 25 MARKS**