



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 II

Course code: EHS 583

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: May 2013

EHS 583 II

QUESTION 1.

Discuss the key issues to be observed in Water Standards? **(25)**

QUESTION 2.

“Standards are devices to keep the lazy mind from thinking and are often the best guess of one worker, easily seized upon quoted and re-quoted until they assume the semblance of authority”

Write shorts on the following terminologies used in Water Quality Standards.

- i) Criteria **(5)**
- ii) Guidelines **(5)**
- iii) Objectives **(5)**
- iv) Requirements **(5)**
- v) Practices **(5)**

QUESTION 3.

The use of wastewater for agricultural purposes is a very old practice and land disposal was the first wastewater treatment system.

- i) What are the limiting factors for the rate of application for wastewater **(15)**
- ii) Explain two (2) categories of risks associated with the re-use of wastewater for agriculture **(10)**

QUESTION 4.

In the Swaziland Water Act, 2003, The Department of Water Affairs was established. As a Director of the new Department under this Act:

How would you develop a Capacity Building for a Water Pollution Control in the Department? **(25)**

QUESTION 5.

With regard to Water Qualities Prediction and Simulation approach adopted, water quality models can also be classified as mathematical model representation.

- i) Describe and give the differences between empirical and deterministic models. **(15)**
- ii) You are given the Streeter-Phelps equation and its integration. Analyse the different processes involved and draw the corresponding curves. **(5)**
- iii) Name and explain the parameters involved. **(5)**