



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

Department of Environmental Health Science

Main Examination 2014

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 on a separate sheet of paper

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

QUESTION 1

Discuss the role of Local Authorities in the process of Water Quality Management? **(25)**

QUESTION 2

Discuss the different ways and techniques in reducing point and non-point sources of pollution. **(25)**

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) Outline with examples, 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, Outline how you would develop Capacity Building for Water Pollution Control within the Department? **(25)**

QUESTION 5

With regard to the Water Qualities Prediction and Simulation approach adopted in Water Quality Management, 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)**