



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

Department of Environmental Health Science

Main Examination 2015

**BSc. in Water Resources and Environmental Health
Management**

Title of paper: WATER QUALITY MANAGEMENT II

Course code: EHM 421

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

EHM 421 II

Question 1.

Discuss the Public Health impacts of the following in water supply

- i) Oil Pollution (10)
- ii) Toxic Pollution (Synthetic organic compounds) (15)

Question 2.

What are the responsibilities of a Surface Water Pollution Control organization? (25)

Question 3.

Discuss the Environmental impacts of the following pollutants in water.

- i) Re-use of sewage for agricultural purpose. (10)
- ii) Disinfection by-products (15)

Question 4.

Explain how Water Quality Management is applied under the following International Practice:

- i) Drinking Water Standards and Criteria (5)
- ii) World Health Organization (WHO) (5)
- iii) European Union (EU) (5)
- iv) South Africa (5)
- v) Surface Water Quality for Portable Abstraction (5)

Question 5.

With regard to the mathematical approach adopted, water quality models can be classified as Empirical or Statistical, Stochastic and Deterministic.

Describe how each of these models can be used in prediction and simulation of Water Quality. **(25)**