



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

Department of Environmental Health
Science

Supplementary Examination 2012

Title of paper: RURAL WATER SUPPLY TECHNOLOGY

Course code: EHS 212

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

- 1) Answer **Four (4)** 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

EHS 212

QUESTION 1.

- a) What are the differences from the chemical point of view between water derived from shallow and deep wells (10)
- b) Describe the possible sources of pollution in each kind of wells. (15)

QUESTION 2.

Describe disease transmission mechanisms related to water supply and sanitation giving at least two diseases under each mechanism under the following.

- a) Water and Diseases (5)
- b) Waterborne Mechanism (5)
- c) Water Washed Mechanism (5)
- d) Water Based Mechanism (5)
- e) Water Related Mechanism (5)

QUESTION 3.

- a) Why do plumes of groundwater that have become polluted with high levels of nutrients from a leaking landfill site exhibit very consistent progressive change in the types of microorganism present and their activities? (15)
- b) What factors control these processes? (10)

QUESTION 4.

As an Environmental Health Officer, you have being asked to design a sampling and analyses for Great Usuthu River.

- a) How would you go about designing such a scheme? (15)
- b) What factors would you control where samples were taken (5)
- c) How could you measure the general “activity” of aquatic bacteria (5)

QUESTION 5.

Describe Five (5) methods of water purification in small scale that can be adapted by rural communities. (25)