UNIVERSITY OF SWAZILAND

Faculty of Health Science

Department of Environmental Health Sciences

Main Examination 2010

Title of paper: RURAL WATER SUPPLY TECHNOLOGY

Course code: EHS 212

Time allowed: 2 hours

Marks allocation: 100 Marks

Instructions:

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

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

Main Examination: December 2010

EHS 212

QUESTION 1.

Total dissolved solids are chemical parameters of concern in water supply. Describe the sources, impacts and how you would measure them in water supplies. (25)
(25)

QUESTION 2.

a) Name the main characteristics of water and under each characteristic, at least mention two (2) components of those characteristics. (10)

b) Detail the public health significance of the components you have mentioned in (a) with regards to water quality and treatment. (15)

QUESTION 3.

With an aid of a diagram, describe spring protection under the following headings:

a) Definition of Seepage spring. (3)
b) Data necessary before protection is done, and reasons why such data is necessary? (7)
c) Detail the protection of the spring. (15)

QUESTION 4.

You are appointed as an Environmental Health Officer in charge of a rural area (in the Low-veld) with a population of 2 000 habitants. A water scheme is planned for the area with water from underground as a source.

a) How would you organize and carry out the construction of the scheme? (10)

b) What steps would you take to ensure its potability and fitness for human consumption? (5)

c) What role would each family play to ensure clean domestic water supply to the households? (5)

d) State two (2) factors likely to contaminate the ground water supply. (5)

QUESTION 5.

As an Environmental Health Officer, you are required to collect water samples from a tap for bacteriological and chemical analyses. What apparatus would you take with and how would you proceed with sampling in each case. (25)