UNIVERSITY OF SWAZILAND

Faculty of Health Sciences

Department of Environmental Health Science

Main Examination 2014

BSc. in Environmental Health Science

Title of paper: RURAL WATER SUPPLY TECHNOLOGY

Course code: EHM 205

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

1) Answer **ANY FOUR** questions
2) Each question carries 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: December 2014

EHM 205

QUESTION 1

i) List the important various water users in Swaziland **(5)**

ii) Compare the amounts of water required by the various users in Swaziland. **(10)**

iii) What is the relative worth of water in its various uses? **(10)**

TOTAL 25 MARKS

QUESTION 2.

i) Why are coliform bacteria used as indicators of drinking water quality? **(5)**

ii) Discuss the limitation of using coliforms as indicators. **(5)**

iii) Why is a positive test for faecal coliforms in a public water supply considered more serious than a positive test for total coliforms? **(15)**

TOTAL 25 MARKS

QUESTION 3.

Currently in Swaziland, the prevalence of water infectious diseases are water-related, causing diarrhea that can be life-threatening for people with immunodeficiency syndrome!

What actions are being taken by the Country to reduce the probability of water related transmission of these diseases?

25 MARKS

QUESTION 4.

As an Environmental Health Officer, you have been requested by the Matsapha Town Council to design a sampling and analysis programme for Little Usuthu (Lusushwana) River as it passes through Matsapha Industrial Area.

i) What are the steps that should be taken to design a sampling and analysis programme **(10)**

ii) What are the factors that should be controlled when samples are to be taken? **(10)**

iii) How will the general "activity" of aquatic bacteria be measured? **(5)**

TOTAL 25 MARKS

QUESTION 5.

i) Define Point Spring. **(3)**

ii) What is the data that is necessary before spring protection? **(7)**

iii) With an aid of a diagram and in details, describe point spring protection. **(15)**