



UNIVERSITY OF SWAZILAND  
Faculty of Health Sciences  
Department of Environmental Health Science

BSc.IN ENVIRONMENTAL HEALTH SCIENCE

MAIN EXAMINATION PAPER, NOVEMBER 2019

TITLE OF PAPER : RURAL WATER SUPPLY

COURSE CODE : EHS 211

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY

: ANSWER ANY FOUR QUESTIONS

: EACH QUESTION CARRIES 25 MARKS.

: WRITE NEATLY & CLEARLY

: NO PAPER SHOULD BE BROUGHT INTO OR OUT OF THE EXAMINATION ROOM.

: BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR.

**QUESTION 1**

With an aid of a diagram, describe the hydrological cycle under the following headings:

- i) Evapotranspiration (5)
- ii) Condensation (5)
- iii) Precipitation (5)
- iv) Infiltration and Percolation (5)
- v) Surface run-offs (5)

**TOTAL 25 MARKS**

**QUESTION 2**

There are three main sources of water for public supply:

- i) Describe how water is obtained from each source? (15)
- ii) Comment on the advantages and disadvantages of each water source in terms of capital costs, reliability of supply and environmental impacts (10)

**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**

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

- i) Water and diseases (5)
- ii) Waterborne Mechanism (5)
- iii) Water-washed Mechanism (5)
- iv) Water-based Mechanism (5)
- v) Water-related Mechanism (5)

**TOTAL 25 MARKS**

**QUESTION 5**

- i) Define the term 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)

**TOTAL 25 MARKS**