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

DEGREE IN ENVIRONMENTAL HEALTH SCIENCE

MAIN EXAMINATION 2016

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

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 cost, reliability of supply and environmental impact.   **(10)**

TOTAL 25 MARKS

QUESTION 2

   i)   Discuss the advantages and disadvantages of using river water as a communal
       water supply.   **(10)**

   ii) What effects has storage on such water and what other means of purification
       in small scale may be adopted?   **(15)**

TOTAL 25 MARKS

QUESTION 3

   i)   What are the differences from the chemical point of view between water derived
       from shallow and deep wells?   **(10)**

   ii) Describe the possible sources of pollution in each kind of wells   **(15)**

TOTAL 25 MARKS

QUESTION 4

i) Why do plumes of ground water that have become polluted with high levels of nutrients from nearby agricultural activities exhibit very consistent progressive change in the type of microorganisms present in their activities   **(15)**

ii) What factors control these processes   **(10)**

TOTAL 25 MARKS

QUESTION 5

"An Environmental Health Officer is required to collect water samples from a standpipe for bacteriological and chemical analysis"

i)   What are the apparatus required to undertake this task   **(10)**

ii) How should sampling be carried out in each case?   **(15)**

TOTAL 25 MARKS