



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

Department of Environmental Health Science

Main Examination 2015

**BSc. in Water Resources and Environmental Health
Management**

Title of paper: WATER QUALITY MANAGEMENT 1

Course code: EHM 317

Time allowed: 2 HOURS

Marks allocation: 100 Marks

Instructions:

- 1) Answer **ANY FOUR** questions
- 2) Each question is 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, 2015.

EHM 317 I

Question 1

- a) Discuss how collection of data for the water budget is done in your Country. (10)
- b) What agencies are contacted? (8)
- c) What other sources of information are important for such exercise? (7)

TOTAL 25 MARKS

Question 2

“There are a series of microbial activities occurring along the flow direction of groundwater initially containing some organic compounds”

- a) Describe the reactions which take place under these conditions. (15)
- b) Why do they occur in the observed sequence? (10)

TOTAL 25 MARKS

Question 3

- a) With an aid of a diagram, outline the stratification process that occur in reservoir and explain how it affects Water Quality. (15)
- b) Discuss the Nutrients (Nitrogen and Phosphorus) as limiting factors for algae growth in a water body (10)

TOTAL 25 MARKS

Question 4

Write short notes on the Public Health Impacts of the following:

- a) Water and Diseases. (5)
- b) Waterborne mechanism. (5)
- c) Water based mechanism. (5)
- d) Water washed mechanism. (5)
- e) Insect vector mechanism. (5)

TOTAL 25 MARKS

Question 5

The so called Vollenweider Model is commonly used for prediction of eutrofication in Lakes and Reservoirs.

- a) Discuss the assumptions that are made in developing this model. (15)
- b) By means of a diagram describe this model. (10)

TOTAL 25 MARKS