



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

BSc. in WATER RESOURCES ENVIRONMENTAL
MANAGEMENT AND

MAIN EXAMINATION PAPER DECEMBER, 2018

TITLE OF PAPER : WATER QUALITY MANAGEMENT I
COURSE CODE : EHS 327
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

Describe the role of local Authority in the process of Water Quality Management

25 MARKS

Question 2

“Mercury and its forms, when present in water, may cause severe toxic effects on human health and environment”

- i) Describe how mercury enters the food chain? **(15)**
- ii) What are the health impacts due to mercury poisoning **(10)**

TOTAL 25 MARKS

Question 3

- i) State ten **(10)** basic rules for successful water quality assessment program! **(10)**
- ii) Discuss the Nutrients (Nitrogen and Phosphorus) as limiting factors for algae growth. **(15)**

TOTAL 25 MARKS

Question 4

During a hot summer evening sewage accidentally spills from a sewage pipe burst into a river used for domestic purposes by the nearby community. The first report of the incident is made to the local municipality that you are working for.

As an Environmental Health Officer, what is the remedy for the situation?

25 MARKS

Question 5

The Vollenweider Model in Water Quality is commonly used for prediction of Eutrophication in lakes and Reservoirs.

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

TOTAL 25 MARKS