



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

**BSc. IN WATER RESOURCES AND ENVIRONMENTAL
HEALTH MANAGEMENT**

MAIN EXAMINATION PAPER 2017

TITLE OF PAPER : WATER QUALITY MANAGEMENT I

COURSE CODE : EHM 317

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

Surface freshwater systems are often subjected to man-made pollution!!

- a) Describe the main sources of pollution (15)

- b) How do they affect the cycling of nutrients in freshwater bodies such as Mntjoli Dam? (10)

TOTAL 25 MARKS

Question 2

- a) Describe the transport process of groundwater contamination with a typical plume pollutant. (15)

- b) Explain three (3) reactions that can occur due to contamination of groundwater and give examples (10)

TOTAL 25 MARKS

Question 3

- a) Discuss how thermal turnover process occur in reservoirs and lakes? (15)

- b) How does thermal turnover affect water quality (10)

TOTAL 25 MARKS

Question 4

Write short notes on the following water pollution parameters, stating how they impact on water quality:

- a) Nutrients (10)
- b) Micro-pollutants (organics) (15)

TOTAL 25 MARKS

Question 5

- a) Discuss the adverse health effects that can be caused by toxic chemicals pollutants. (15)
- b) How does Eutrophication impact water quality? (10)

TOTAL 25 MARKS