



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL HEALTH

FINAL EXAMINATION PAPER 2007/2008

Title of paper	:	WATER TREATMENT I
COURSE CODE	:	EHS 584
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 NOR 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.

Physical characteristics of water is one of the main reasons why we treat water, so that we can adjust the levels of the constituents' components in the water.

Detail the characteristics elements which have an impact on water quality and also have an effect in water treatment plants. (25)

Question 2.

A) With an aid of a diagram, describe the principal features of a rotary micro-strainer. explaining the advantages and disadvantages. (10)

B) What is the significance of aeration in drinking water treatment plant? (15)

Question 3.

A) Explain the process of stability of colloidal system in water. (15)

B) What do you understand by tapered flocculation? (10)

Question 4.

A) What are the general physical parameters in raw water?
Explain the origin and significance of each of the parameters in water treatment? (10)

B) In Water Treatment aimed at production of drinking water, what is the most important treatment step and why? (10)

Question 5.

A) What do you understand by Lamella sedimentation? (4)

B) Discuss the three (3) configuration of Lamella sedimentation tanks. (6)

C) List and Explain the design points of Lamella tanks. (10)