



UNIVERSITY OF SWAZILAND
Faculty of Health Science

Department of Environmental Health
Sciences

Final Examination 2009

Title of paper: WATER TREATMENT 1

Course code: EHS 584

Time allowed: 2 hours

Marks allocation: 75 Marks

Instructions:

- 1) Read the questions and instructions carefully
- 2) Answer THREE (3) questions
- 3) Each question is weighted 25 marks
- 4) Write neatly and clearly
- 5) Begin each question on a separate sheet of paper

This paper is not to be opened until the invigilator has granted
permission

Main Examination: December 2009

EHS 584 1

Question 1.

Physical characteristics of water are 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 in water quality and also have an effect in water treatment plants. (25)

Question 2.

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

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

Question 3.

A) What are the general physical parameters in raw water?
Explain the origin and significance of each of the parameters in water treatment? (15)

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

Question 4.

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

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

C) List and explain the design points of Lamella tanks. (15)