



UNIVERSITY OF SWAZILAND
Faculty of Health Science

Department of Environmental Health
Sciences

Supplementary Examination 2009

Title of paper: URBAN WATER TREATMENT TECHNOLOGY

Course code: EHS 213

Time allowed: 2 hours

Marks allocation: 100 Marks

Instructions:

- 1) Read the questions and instructions carefully
- 2) Answer ALL questions
- 3) Each question is weighted 25 marks
- 4) Write neatly and clearly

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

Supplementary Examination: July 2009

EHS 213

QUESTION 1.

Screening and Straining are some of the physical treatment in a convectional water treatment plant.

Describe the physical treatment process noting the different type of screens and strainers. (25)

QUESTION 2.

a) Chemical coagulation in water treatment plant is accomplished by the addition of trivalent metallic chemicals; name two (2) of these. (5)

b) Name four (4) mechanisms that occur during coagulation and flocculation. (5)

c) Describe briefly the four mechanisms during coagulation and flocculation. (15)

QUESTION 3.

a) What is understood by “filtration” in connection with the treatment of a water supply for drinking purpose. (10)

b) Describe rapid gravity filtration used on a big scale by water authority. (15)

QUESTION 4.

a) Name five (5) types of settling basins employed for solids removal in water treatment plants. (5)

b) With an of a diagram, describe the four (4) functional zones of a longitudinal-rectangular settling tank. (20)