

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DIPLOMA IN ENVIRONMENTAL HEALTH SCIENCES

FINAL EXAMINATION PAPER 2007

TITLE OF PAPER : EXCRETA AND SEWAGE MANAGEMENT

COURSE CODE : EHS 204 2007

DURATION : 3 HOURS

MARKS : 100

INSTRUCTIONS : ANSWER ANY FIVE QUESTIONS

: EACH QUESTION CARRIES 20 MARKS

: 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 ONE

A) You are assigned as an EHO the Ngwenya new industrial site where there is a textile firm employing a total of 400 men. How many WCs and Urinals would you recommend for this firm? [4]

B) For a properly functioning excreta disposal method Wagner and Lainnox (1977) outlines seven requirements. Briefly discuss them? [10]

C) What do you understand by the term sludge? Comment on its treatment and disposal method. [6]

QUESTION TWO

A) Differentiate between the privy and the water carried methods of excreta disposal [10]

B) What makes biological treatment the most favored method for waste water treatment [10]

QUESTION THREE

A) Mention four points to consider when the laying of pipes under a building is completely unavoidable [8]

B) What are the two types of drain testing methods? [4]

C) List the three categories of drainage fittings and discuss one of them in details. [8]

QUESTION FOUR

A) With the aid of a well labeled diagram describe the VIP latrine [10]

B) Differentiate between aerobic, facultative and anaerobic modes of waste water decomposition. Draw up a sketch of the stabilization ponds and indicate which ponds operate in the anaerobic modes. [10]

QUESTION FIVE

A) Describe and compare the two types of WC pan [6]

B) Draw a sketch plan and indicate where you would normally find a grease trap. What purpose does it serve and how would you advise taking care of the grease trap. [10]

C) The water carried method of excreta disposal is often divided into primary and secondary treatment. Give examples of both and state reasons why they are referred as such [4]

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QUESTION SIX

A) Several principles of drain construction exist. Discuss in details one technique for drain construction. [5]

B) When does the need for constructing foundations arise in an ordinary drainage construction project? [5]

C) Mention the three disadvantages associated with the use of concrete pipes in a drainage system. [3]

D) List six materials normally used in drainage [6]

E) Give an example where the knowledge of drainage can be useful to the work of an Environmental Health Officer. [1]

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