

**UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES**

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE

SUPPLEMENTARY EXAMINATION PAPER JULY 2016

TITLE OF PAPER : ON SITE SANITATION

COURSE CODE : EHM 202

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS : ANSWER ANY FOUR QUESTIONS

: EACH QUESTION CARRIES 25 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) Given that the mean values of human excreta quantities produced per person per day stand at the following rates.

Asia	200-400g
European & USA	100-150g
Tropics	280-530

Discuss what could be the reasons behind such state of affairs above? [20]

- b) Describe characteristics of excreta [5]

QUESTION TWO

- a) Relate excreta and sewage to disease transmission & Public health problems [15]
b) With examples explain the effects of indiscriminate excreta disposal [10]

QUESTION THREE

- a) In your own words explain the concept and essence of PHAST in sanitation. [15]
b) What are the four factors that influence excreta to transmit disease? [4]
c) Give the four rules pertaining to drain pipes laid under buildings. [4]
d) What are the functions of a drain field? [2]

QUESTION FOUR

- a) Distinguish the following: culinary, soil and ablution facilities. [4]
b) Compare and contrast a VIP latrine and an ordinary Pit latrine in terms of the following: [7]
i. constructional components



- ii. operation
 - iii. advantages and disadvantages
 - iv. Precautions to be taken
- c) Outline seven reasons for drain ventilation [14]

QUESTION FIVE

a) Health awareness and understanding which, in turn, lead to environmental and behavioural improvements is very critical in sanitation. Discuss the relevance of PHAST in this endeavour. [13]

b) Below, Figure 1 shows a graphic design of a septic tank indicating its components. Answer the following questions:

- i. What are the functions of each component part? [6]
- ii. Describe primary and secondary treatment in a septic tank. [6]

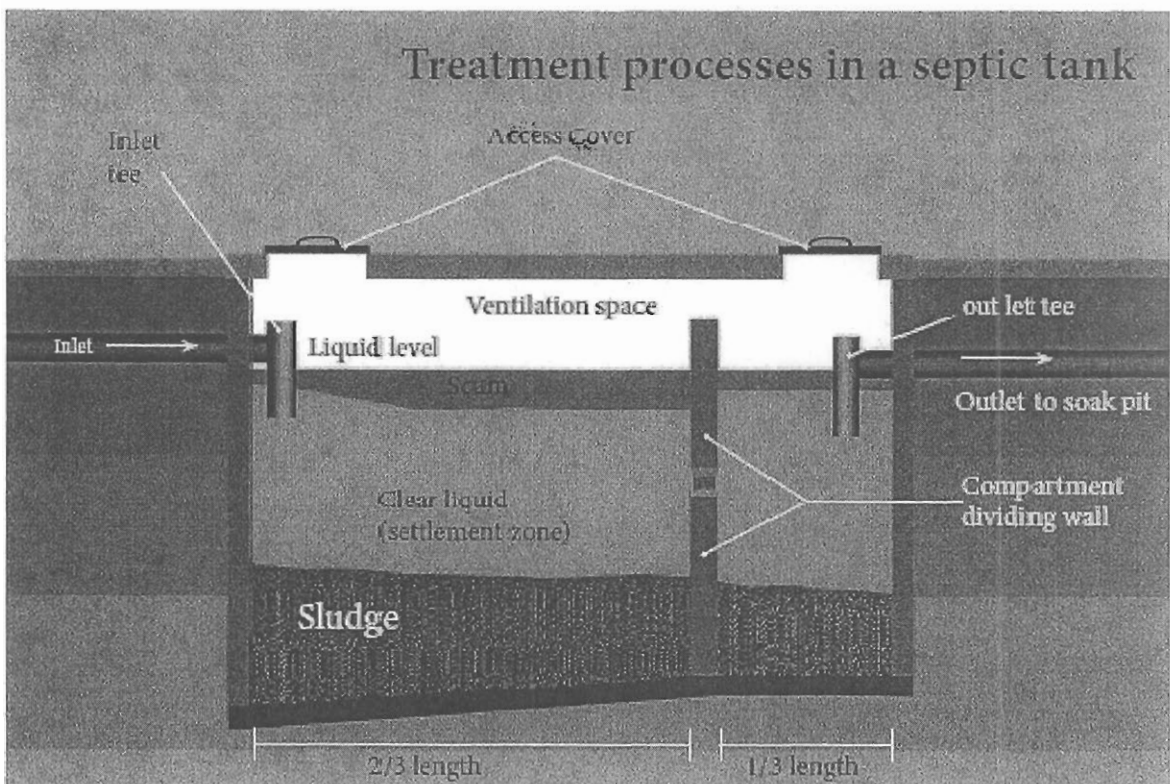


Figure 1: Septic Tank