

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
Department of Environmental Health sciences

Diploma in Environmental Health Sciences

MAIN EXAMINATION PAPER DEC 2009

TITLE OF PAPER : BUILDING CONSTRUCTION
TECHNOLOGY 1

COURSE CODE : EHS 210

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS : ANSWER ANY FOUR QUESTIONS

: EACH QUESTION CARRIES 25 MARKS

: 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) Write short notes on the use of the following in building materials

- (i) Water [2]
- (ii) Soil [2]
- (iii) Stone [2]
- (iv) Render [2]
- (v) Metal [2]

B) The construction of a building can be divided into five phases. Name them and state six factors considered during the preliminary study. [10]

C) Describe the four steps in the production of Concrete. [5]

QUESTION TWO

A) With the aid of a sketch describe how you would go about constructing a solid ground floor and describe the utility of the parts in a solid ground floor [20]

B) Various types of floor finishes exist. List them and state the three classes of floor finishes [5]

QUESTION THREE

A) Consider the following methods used in excavation (I) Cut and fill

- (ii) Cut
- (iii) Fill

Draw sketches for each and comment on advantages and disadvantages of each. [9]

B) Write notes on “workability” as an important property of concrete [3]

C) List the other properties besides workability [4]

D) Three operations are necessary once a contractor takes over a site. Name them. [6]

E) Give three reasons why Hoardings and fencing may be necessary in a building site [3]

QUESTION FOUR

A) The cost of building materials in various shops differ quite a lot. List three factors which can lead to this [3]

B) With the aid of a simple diagram distinguish between Flemish bond and English bond [4]

C) Describe the five features of the local natural environment important to our choice of site for building [10]

D) Identify the main actors in a building project and state their roles [3]

E) Swaziland Contract Services has had difficulties constructing foundations in some of its projects. If asked to account for this before the Swaziland Contract Services Board of Directors what could the site engineer say? [5]

QUESTION FIVE

A) Describe and demonstrate the significance of the Life Cycle Analysis approach to building construction materials [10]

B) Consider the following features of the natural environment and link their corresponding features in the built environment:

- a) Forests
- b) Clay soil
- c) Hot dry climates[6]

C) What is the value of “Eco Labelling” in building construction? [4]

D) What are the usual components of a façade in a house and what would you do to enhance a façade [5]
