

**UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES**

**BACHELOR'S DEGREE IN ENVIRONMENTAL
HEALTH SCIENCES**

MAIN EXAMINATION PAPER DEC 2012

TITLE OF PAPER : BUILDING CONSTRUCTION
TECHNOLOGY I

COURSE CODE : EHM 201

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

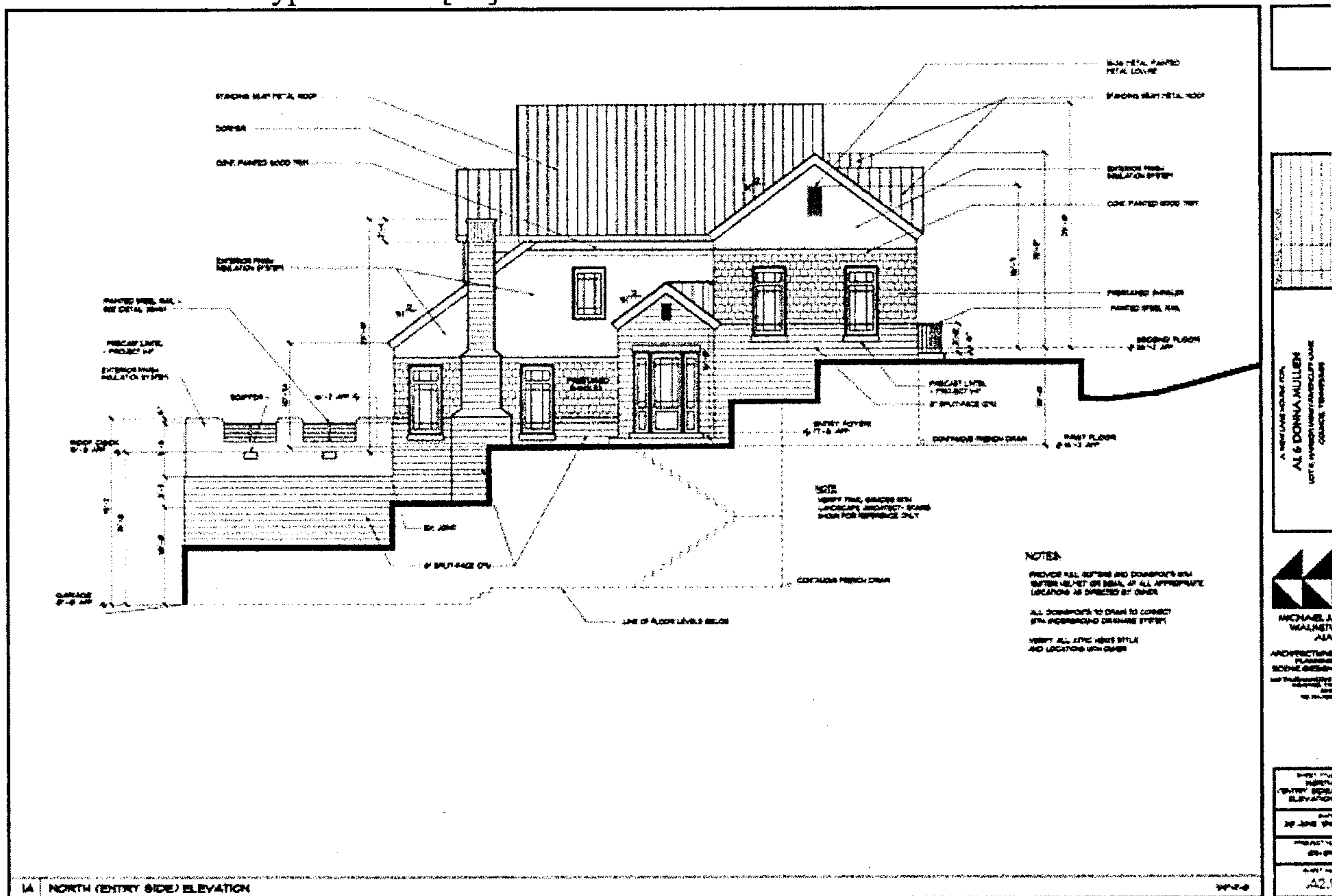
DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS
GRANTED BY THE INVIGILATOR

QUESTION ONE

- (A) Define the concept “recycling and reuse in building construction” and list at least six building materials that are possible to reuse and in what ways. [10]
- (B) The Environmental impact of building construction activities includes depletion of natural resources. Give four examples of these resources and their management [4]
- (C) Contrast between the work of an Environmental Health Officer and a Building Inspector in Building Construction (6)
- (D) Finishes refer to particular issues in building operations. Which aspects are those? [5]

QUESTION TWO

- (A) In Site Works two issues are important. These are site investigation and site layout. Choose one and describe fully. [10]
- (B) The following is a single story building. Describe the type of foundation used and reason for the foundation type chosen. [10]

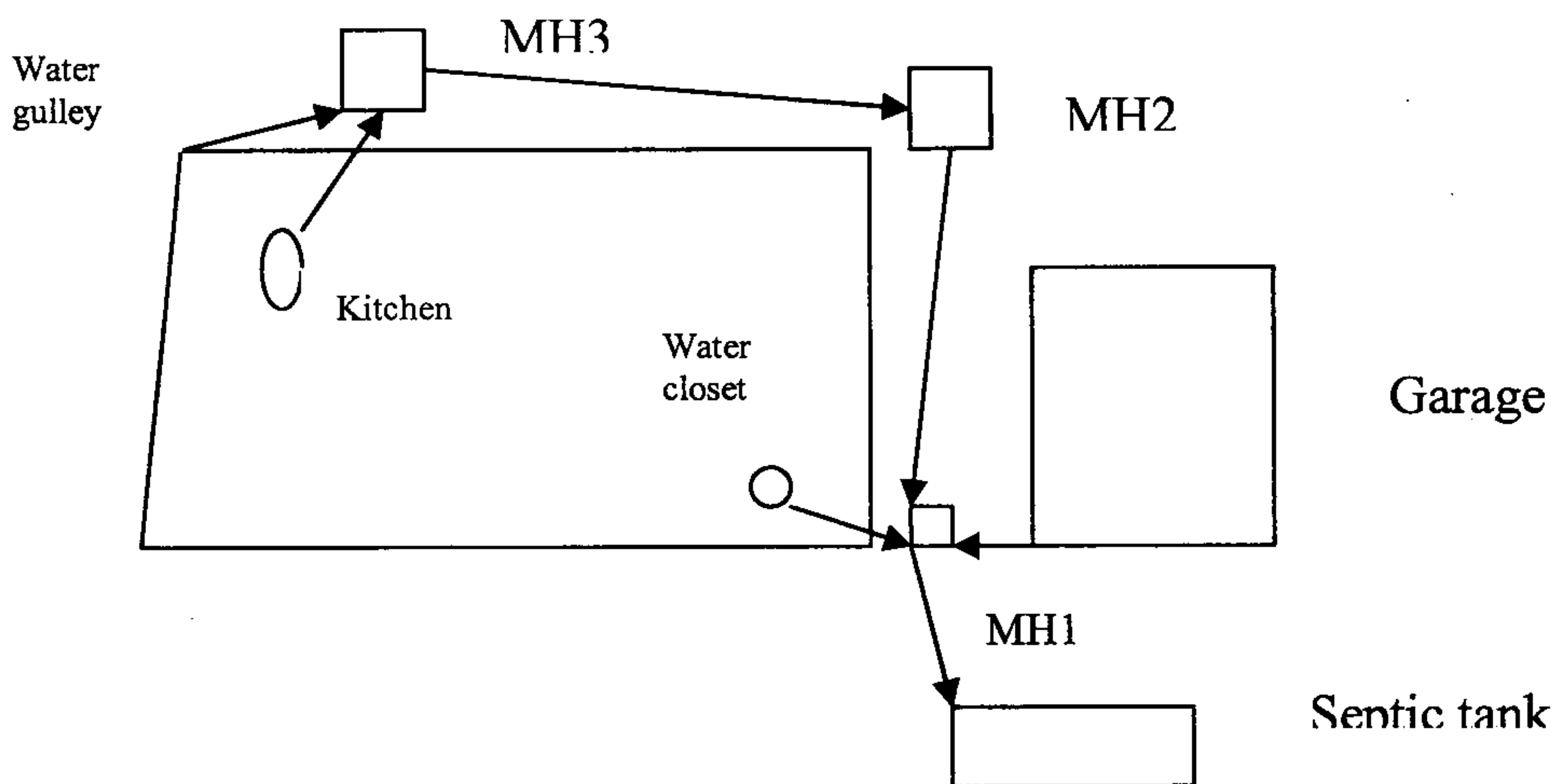


- (C) Distinguish between DPM and DPC [2]
- (D) Sketch out a column and a beam to demonstrate your understanding of the differences between the tensile and compressive strength of Concrete [3]

QUESTION THREE

- (a) Render and timber are two building materials that require delicate protection. Explain why this is so and give at least three ways in which timber and render can be protected [10]
- (b) Discuss six advantages of using wood wool slabs as a thermal insulation material in a building [12]
- (c) The sketch below illustrates which type of a drainage system (Choose one) [3]

- a. Partially separate system
- b. Combined system
- c. Separate system
- d. Subsoil drainage system



QUESTION FOUR

- (a) Concrete has six important properties. Discuss the significance of each of these properties [12]
- (b) Briefly describe the process of carrying out the slump test when testing for compressive strength in concrete [10]
- (c) Distinguish between the curing process of 1) horizontally placed concrete and 2) vertically placed concrete [3]

QUESTION FIVE

(A) Write a few notes on the building material called 'AGGREGATE' then complete the following matrix related to its particle sizes [5]

NAME	SIZE OF PARTICLES
Coarse gravel	60.0-20.0mm
Fine gravels	
Coarse sand	2.0-0.6mm

	0.2-0.06mm
Course silt	0.06-0.02mm
	0.006-0.002mm
clay	

(B) Draw and label the different types of roofs you know [10]

(C) What is the utility of doors and windows in a building [4]

(D) Drawing upon your knowledge of floor types distinguish between *in situ* and *applied* floor finishes. [4]

(E) Define the term "building" as cited by the Building Act, 1968 [2]