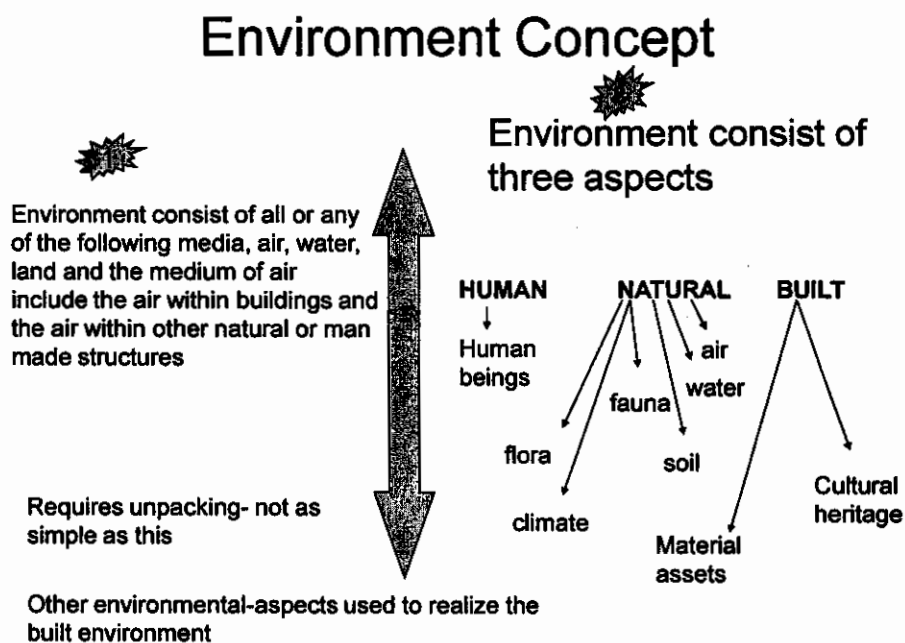




**QUESTION ONE**

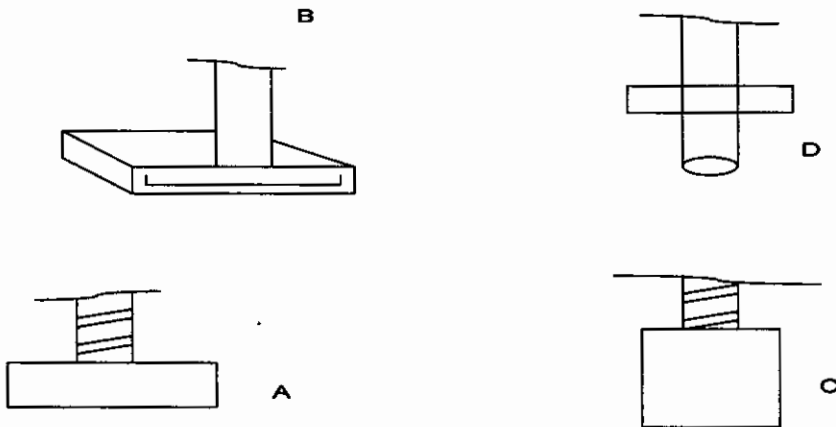
- (a) A restaurant has lodged a complaint arising out of logging and construction activities around town. Using the LCA principles describe in detail the likely issues raised in the complaint. [15]
- (b) Using the diagram below , what is meant by the **built environment**? State its significance and its links to natural and the human environment. [10]



**QUESTION TWO**

- (a) Define the concept “green construction’ and state three design considerations that help to achieve the objectives of ‘green construction’ pertaining to energy in buildings. [11]
- (b) A building engineer is tasked with making a choice between several types of foundations for a big construction project. Discuss five factors that may help him/her come to a proper conclusion on his/her choices. [10]

- (a) Name the following types of foundations below (A, B, C, D) and state under what conditions each type is used. [4]



### QUESTION THREE

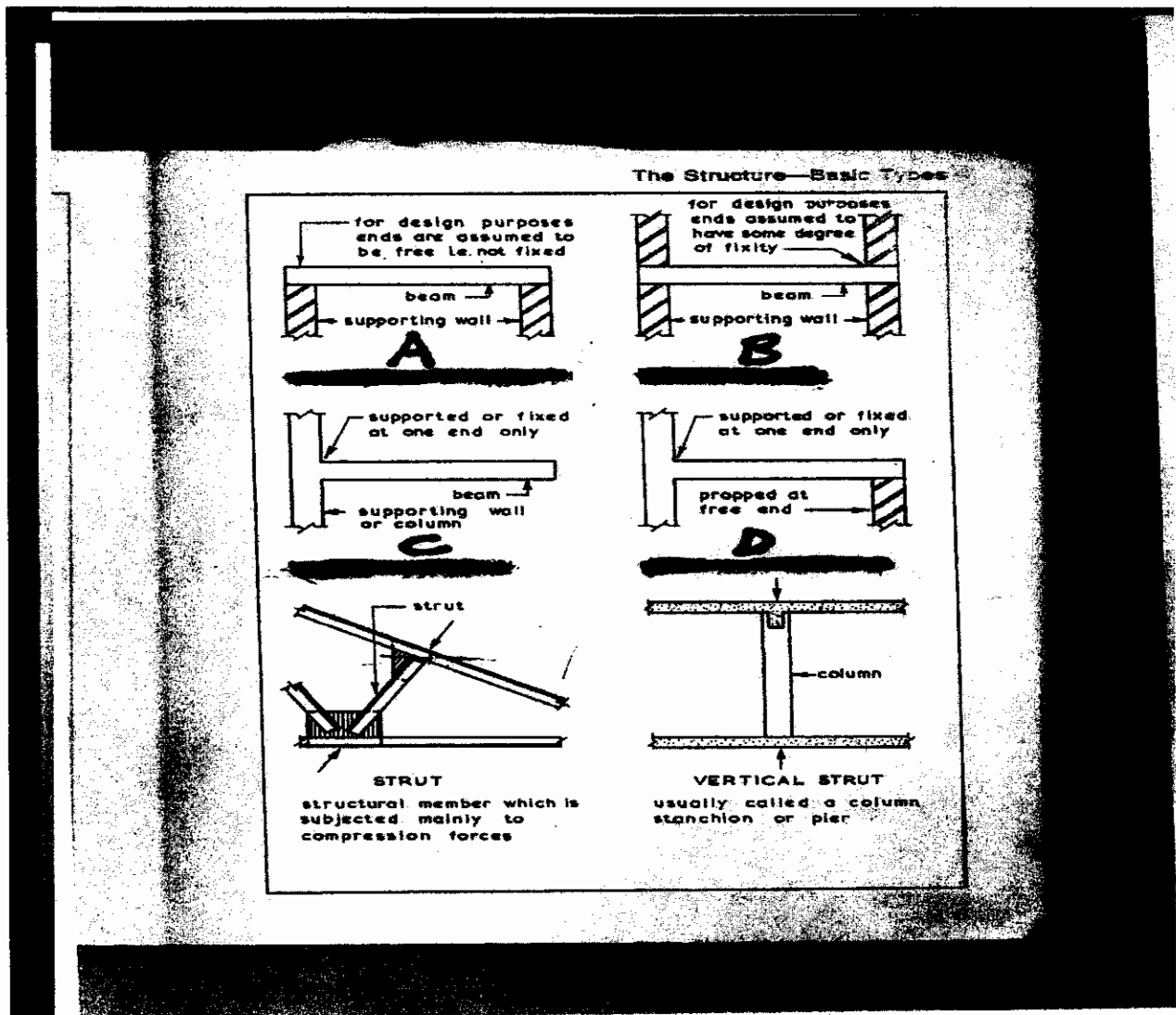
- (a) State the eight performance requirements for any building fabric. [8]
- (b) Differentiate between primary and secondary elements in building construction [1]
- (c) Differentiate between substructure and superstructure in buildings [1]
- (d) Differentiate between solid construction and framed construction [1]
- (e) Given wooden and metal doors, which will you choose to use in a domestic building? Give reasons for your choice. [5]
- (f) Painting and rendering are two very important activities in building construction. Write a few notes on each to demonstrate your understanding of the two different roles each one plays in building construction [5]
- (g) Concerning aggregate please complete the following matrix below [4]

# AGGREGATE

NAME	SIZE OF PARTICLES
Coarse gravel	6.0-2.0mm
Course sand	2.0-0.6mm
Fine sand	0.06-0.02
Fine silt	0.006-0.002
	$\leq 0.002$

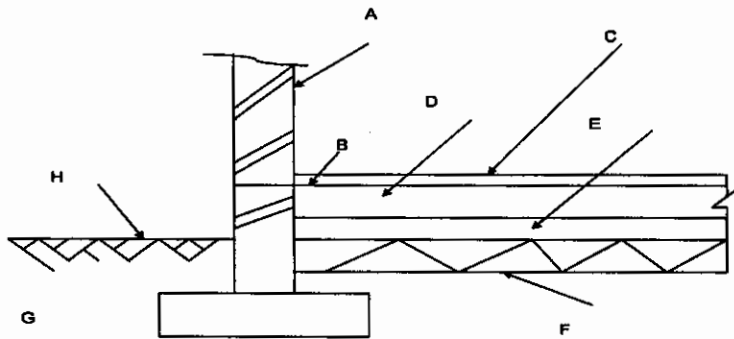
## QUESTION FOUR

- (a) On your answer script label the following basic types of beams used in construction projects (A,B,C and D) [4]



(b) Label the following diagram representing a ground floor

[8]



(c) Choose any three and sketch out to demonstrate the understanding of these terminologies as applied to brickworks. [3]

- i. Tothing
- ii. Raking back
- iii. Cross joint
- iv. Bed joint stretcher course
- v. Quoin

(d) The construction of a building can be divided into five phases. Name them and state five factors considered during the preliminary study. [5]

(e) There are eight performance requirements for any building fabric. State five. [5]

## **QUESTION FIVE**

- (a) State the three classes and list the various types of floor finishes. [6]
  - (b) List three factors which lead to differences in cost of building materials in various shops. [3]
  - (c) What are the three primary objectives of construction site security? [3]
  - (d) List the seven typical security provisions that can be made at the construction site. [7]
  - (e) Describe the process of carrying out the slump test to determine the compressive strength in concrete. [4]
  - (f) Describe the curing process on flat and vertical grounds respectively [2]
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