



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Engineering & Technology

DEPARTMENT OF CIVIL AND BUILDING ENGINEERING

DCC 09A, DBC 09A, CA 09

SEMESTER I EXAMINATIONS

APRIL/MAY 2010 SERIES

BUILDING TECHNOLOGY I

TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination:

- Answer booklet
- Pocket Calculator

This paper consists of **FIVE** Questions.

Question **ONE** is **COMPULSORY**.

Answer any other **TWO** Questions.

The maximum marks to each part of a question are all shown.

Question ONE (Compulsory)

- (a). Describe the **THREE** stages of evolution of the built environment. **(6 Marks)**
- (b). Describe the **FOUR** building processes to be followed when building a house. **(8 Marks)**
- (c). Describe the roles of the following professionals in the building industry:
- (i). Architect **(3 Marks)**
 - (ii). Quantity surveyor **(3 Marks)**
- (d). List down the **FOUR** methods of clearing vegetation. **(4 Marks)**
- (e). Using a well illustrated diagram, define shallow timbering and show the main supports involved in timbering. **(6 Marks)**

Question TWO

- (a). Define the following terms as used in foundation:
- (i). Made ground
 - (ii). Bearing capacity of the soil
 - (iii). Settlement **(6 Marks)**
- (b). Using well labeled diagrams, differentiate between wide strip foundation and deep strip foundations. **(6 Marks)**
- (c). List down **FOUR** factors to consider when selecting excavation methods. **(4 Marks)**
- (d). Explain how the 3-4-5 method is used to set out. **(4 Marks)**

Question THREE

- (a). List down **FIVE** functional requirements of ground floors. **(6 Marks)**
- (b). Using a well labeled diagram, show the construction components of a solid ground floor. **(4 Marks)**
- (c). In each case, give two purposes of the following:
- (i). Hardcore
 - (ii). Blinding
 - (iii). Floor screed **(6 Marks)**

- (d). Differentiate between granolithic floor finish and terrazzo floor finish. **(4 Marks)**

Question FOUR

- (a). List down **FIVE** functional requirements of walls. **(5 Marks)**
- (b). Using well illustrated diagrams, differentiate between a monolithic wall and a masonry wall. **(4 Marks)**
- (c). List down the **THREE** types of joining mortar giving the ratios used in each case. **(6 Marks)**
- (d). Using a well labeled diagram, show the main parts of a door opening. **(5 Marks)**

Question FIVE

- (a). Define the following terms as used in arches.
- (i). Intrados
 - (ii). Springing line
 - (iii). Springers
 - (iv). Keystone
 - (v). Rise of an arch
- (b). Draw and give the uses of each of the following plastering tools.
- (i). Laying trowel
 - (ii). Ganging trowel
 - (iii). Margine trowel
 - (iv). Hand float
 - (v). Hand hawk
- (c). List down **FIVE** characteristics of lime plasters. **(5 Marks)**