



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Engineering & Technology

DEPARTMENT OF CIVIL AND BUILDING ENGINEERING

HIGHER DIPLOMA IN BUILDING AND CIVIL ENGINEERING

DIPLOMA IN CIVIL ENGINEERING AND CAD

END OF SEMESTER I EXAMINATIONS

APRIL/MAY 2010 SERIES

COMPUTER AIDED DESIGN AND DRAFTING

TIME: 3 HOURS

Instructions to Candidates

1. You should have the following for this examination:
A personal computer or a laptop computer installed with AutoCAD.
2. Create a folder in My Documents and name it after your class i.e. HB BC 09 or DCC 07;
save ALL your answers in this folder. Name your Microsoft Word and AutoCAD files
using your names followed by your student number.
3. This paper consists of **FIVE** questions:
Answer question **ONE (Compulsory)** and any other **TWO** Questions.

Maximum marks for each part of a question are as shown.

Question ONE

- (a). Briefly explain the use of Layers in AutoCAD. **(5 Marks)**
- (b). (i). Using AutoCAD plot the boundary of a shamba with the following bearings and distances:

LEG	BEARINGS			DISTANCES IN METRES
	°	'	''	
AB	18	30	55	105.000
BC	350	05	15	66.000
CD	65	40	04	129.000
DE	97	00	00	250.000
EF	135	11	33	179.000
FG	179	59	59	75.900
GH	255	09	58	303.600

(15 Marks)

- (ii). The bearing and distance for leg HA have not been provided: close the traverse and provide the missing information. **(2½ Marks)**
- (c). Briefly describe any **THREE** methods of restricting cursor movement in the AutoCAD window. **(7½ Marks)**

Question TWO

Figure 1 below shows part of a building ground floor plan; the stair case well. If the height between successive finished floor levels is 3300mm, using AutoCAD, draw section x – x upto the first floor level.

(20 Marks)

Question THREE

Figure 2 shows the front elevation of a façade to the main entrance of a proposed trading centre. Figure 3 shows all the design/construction details of the elevation. Using AutoCAD, reproduce the elevation.

(20 Marks)

Question FOUR

Fig. 4 shows the cross section of a typical reinforced concrete retaining wall. Reproduce the drawing as shown below.

(20 Marks)

Question FIVE

Low cost 2 bedroomed houses are required in a slam upgrading scheme. Design and draw a suitable **floor plan** satisfying the following requirements:

- (i). **Bedrooms:** minimum floor areas = 10m^2 ,
Least room dimension = 3m
- (ii). **Sitting room:** minimum floor area = 15.12m^2
Least dimension = 3.6m
- (iii). **Corridors/lobbies:** Atleast 1050mm wide
- (iv). **Veranda:** at the front door atleast 1800mm wide
- (v). **loadbearing walls** = 200mm thick
- (vi). **Non-loadbearing partition walls** = 150mm thick
- (vii). **w.c. and bathroom** (separate)

(20 Marks)