



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN ARCHITECTURE (DARC 13M)

EAR 2106: BUILDING TECHNOLOGY & SERVICES I

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2013
TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions

Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One

- a) Explain the roles of the following in the building industry:
(i) Architect
(ii) Structural engineer
(iii) Quantity surveyor **(12 marks)**
- b) Explain the importance of soil investigation in the construction of buildings **(4 marks)**
- c) Sketch and label the parts of a corner profile as used when setting out buildings **(4 marks)**

Question Two

- a) Sketch and label the parts of a wide strip foundation **(4 marks)**
- b) Explain the TWO main factors to consider when selecting a type of foundation **(6 marks)**
- c) With the aid of a sketch, outline the construction of a solid ground floor **(8 marks)**
- d) List FOUR materials used in construction of buildings **(2 marks)**

Question Three

- a) State FOUR functional requirements of walls **(4 marks)**
- b) Sketch and label the parts of the following:
(i) Cavity wall
(ii) Rubble flint wall
(iii) Reinforced monolithic wall **(12 marks)**
- c) State FOUR requirements for stairs as per building code **(4 marks)**

Question Four

- a) Sketch and label the parts of a putlog scaffold **(6 marks)**
- b) Sketch the following roofs:
(i) Closed couple
(ii) Collar
(iii) Lean-to
(iv) Couple **(10 marks)**
- c) Explain the reasons of using steel as reinforcement in construction of buildings **(4 marks)**

Question Five

a) Sketch and label the parts of the following:

- (i) Framed, ledged and braced door
- (ii) Panelled door
- (iii) Parliament hinge
- (iv) 'T'ee hinge

(12 marks)

b) (i) Name FOUR types of sanitary appliances

(4 marks)

(ii) Explain the processes of applying screed as a floor finish

(4 marks)