

SIR ARTUR LEWIS COMMUNITY COLLEGE
DIVISION OF TECHICAL EDUCATION AND MANAGEMENT STUDIES

EXAMINATION SESSION : MAY 2013 Final Examination

TUTOR : S. E. Yarde

PROGRAMME TITLE : Carpentry and Joinery Foundation

PROGRAMME CODE : 3BD-CAJ-CE

COURSE TITLE : Building Construction 1B

COURSE CODE(S) : BLT 117-A

CLASS (ES) : Year One

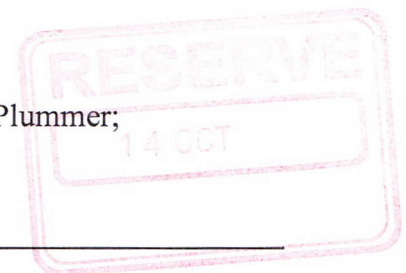
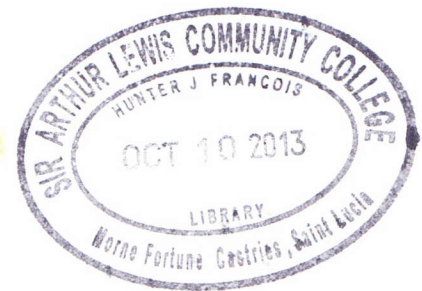
DATE : Thursday 9th May, 2013

TIME : 9:00 am

DURATION : 3 Hours

ROOM : CEH-1R-02

INVIGILATOR : **C.Gedeon**, D.P-Alfred; A.Plummer;
C.Alexander



INSTRUCTION:

- ◆ This examination comprises **Nine (9)** Questions
- ◆ Answer any **Five (5)** questions.

Question: 1

- a) Define a building foundation. (3 marks)
 - b) Briefly explain Two (2) functional requirements of a foundation in a building. (4 marks)
 - c) Use brief notes to explain the Two (2) factors which determine the choice and design of foundation for a small domestic building (4 marks)
 - d) With the aid of neat sketches, identify three (3) types of strip foundation (9 marks)
- Total (20 marks)**

Question: 2

- a) Define the term settlement and identify three (3) main causes (5 marks)
 - b) With the aid of sketches, identify three (3) method of reducing level (6 marks)
 - c) With the aid of a diagram or sketch, show a section of a change in level or step foundation (4 marks)
 - d) With the aid of a diagram, identify a shallow Raft foundation. (5 marks)
- Total (20 marks)**

Question: 3

- a) Define a floor. (3 marks)
 - b) What are the main functions of a floor? (2 marks)
 - c) Write descriptive notes on the Five (5) basic requirements of any building floor. (10 marks)
 - d) Differentiate between a solid floor and a suspended floor. (5 marks)
- Total (20 marks)**

Question: 4

- a) Define a building wall. (3 marks)
 - b) State the primary function of a building wall. (4 marks)
 - c) What are the Five (5) basic requirements of a wall? (5 marks)
 - d) Differentiate between a masonry wall and a frame wall (8 marks)
- (20 marks)**

Question: 5

- (a) Define a cavity wall (3 marks)
- (b) What is the main purpose for constructing a cavity wall? (3 marks)
- (c) Give three (3) advantages and three (3) disadvantages of cavity wall construction (6marks)
- (d) Sketch a neat vertical section through a cavity wall, showing the following:
 - 1. A masonry wall to the outer leaf.
 - 2. A frame wall to the inner leaf.(8 marks)

Total (20 marks)

Question: 6

- a) Identify the five (5) basic requirements of a roof (5 marks)
- b) How are roofs with two dimensional members classified? (3 marks)
- c) With the aid of diagrams, differentiate between a close and open eave (8 marks)
- d) Using single line diagrams to identify the following,
 - (i) Pitch Roof (ii) Flat Roof (iii) Hip Roof (iv) Valley Roof (4 marks)

Total (20 marks)

Question: 7

- a) Define a stair (2 marks)
- b) What are the three (3) functional requirements of a stair? (3 marks)
- c) With the aid of a diagram or sketch, show the method of connecting a timber stair to a timber upper floor (5 marks)
- d) Use annotated sketches to illustrate the following stair terminology
 - (i) Tread (ii) Riser (iii) Nosing (iv) Rise (v) Newel Post (vi) String (10 marks)

Total (20 marks)

Question: 8

- a) What are the properties required from an external door? (3 marks)
- b) With the aid of sketches, identify four (4) methods in which doors are designed (4 marks)
- c) Sketch the front view of a panel door constructed with the combination of timber and glass identify the following.
 - (i) Top rail (ii) Glass panel (iii) Glazing bars (iv) Frieze rail (v) Solid timber panel (vi) Lock or middle rail (vii) Styles (viii) Mullion (ix) Bottom rail (x) intermediate rail (10 marks)
- d) With the aid of diagrams, show the difference between a door frame and a door lining (3 marks)

Total (20 marks)

Question: 9

- a) What is the primary function of a window? (2 marks)
- b) Give three (3) reasons for ventilating a room (3 marks)
- c) Using annotated sketches to illustrate the following:
 - (i) Casement window (ii) Sash window (iii) Double glazing (iv) Bay window (v) Dormer window (15 marks)

Total (20marks)