

ITEMS PAST PAPERS

TECHNICAL STUDIES

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

EXAMINATION SESSION : MAY 2014 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 : Friday 9th May, 2014
TIME : 9:00 am
DURATION : 3 Hours
ROOM : **TRB - Lab**
INVIGILATOR : **P. E – Ford** H. Nicholas



B32



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 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 and its main functions. (3 marks)
 - b) Write descriptive notes on the Five (5) basic requirements of any building floor. (5 marks)
 - c) With the aid of diagram, differentiate between a solid timber ground floor and a suspended timber upper floor. (7 marks)
 - d) A stairwell is to be located in the centre of a timber upper floor. Use an annotated sketch to show how you trim around the opening. (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) method in which doors are design (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 different 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)