

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE
BACHELOR OF ARCHITECTURAL STUDIES (HONOURS) DEGREE

PART II –SECOND SEMESTER EXAMINATION – MAY 2014
2013-2014 ACADEMIC YEAR

AAR 2202 – BUILDING CONSTRUCTION II

Instructions

Duration: 4 Hours

Answer all Questions.

Answer Question 1 on an A1 sheet/s of paper.

Total Marks: 100

Question 1

(a) A Client for whom you are designing a double storey residence needs an eye-catching glass staircase on the shaded provided space on the floor plans below. (See Figure 1 & 2.) Assume the floor to floor height to be 3m.

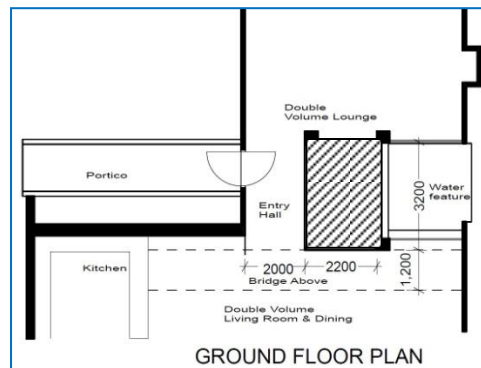


Figure 1: Part of the Ground Floor Plan of The Residence

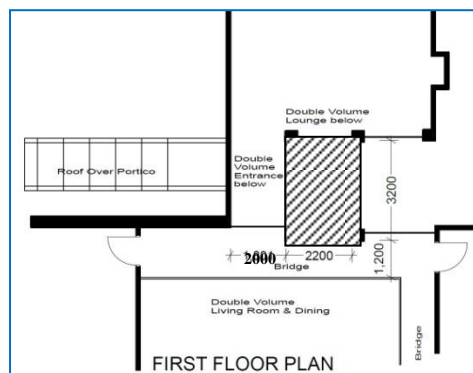


Figure 2: Part of the First Floor Plan of The Residence

Design a half turn floating glass staircase and provide the following:

(i) A floor plan of the stair (5)

(ii) A section through the stair showing access from ground to first floor. (10)

(iii) Details at a scale of 1:5 of any four parts or components of the stair clearly identifying their names (20)

(b) Identify three advantages and two disadvantages of a glass staircase (5)

(40 marks)

Question 2

(a) What factors influence the design and location of a typical domestic fireplace. (6)

(b) Provide a typical detailed vertical section through the throat of a fire place in a living room of a single storey building with a gable roof under concrete tiles (14)

(20 marks)

Question 3

(a) What is a walling system? (3)

(b) Using sketches explain

(i) The use of earth as a wall material. (4)

(ii) The basic function of cavity walls. (3)

(c) What are the benefits of Interior glass wall systems in the workplace environment. (2)

(d) Explain four methods available for framed structure cladding? (8)

(20 marks)

Question Four

(a) What is a roof? (3)

(b) Use sketches to identify any four methods of roof ventilation (8)

(c) Show the details of a box gutter of a trussed butterfly roof (5)

(d) Use sketches to differentiate between a ledge and brace on a door. (4)

(20 marks)