

**CONSTRUCTION STUDIES - PART I (THEORY)**

**ORDINARY LEVEL**

**THURSDAY, 25 JUNE - 2.00 - 4.30**

**(200 marks are allotted to this paper)**

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- (a) Answer Question 1 and three other questions.  
(b) Answers must be written in ink; drawings and sketches to be made in pencil.  
(c) Write the number of the questions distinctly in the margin of the paper before each answer.  
(d) Freehand sketches or diagrams to illustrate written descriptions should be made.  
(e) The name, sizes, dimensions and other necessary particulars of each material indicated must be noted on the drawing.  
(f) *All questions carry equal marks.*
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1. To a scale of 1:5, draw a vertical section through a suspended timber ground floor abutting an external load bearing cavity wall built of solid concrete blocks and plastered on both faces. Show constructional details from the bottom of the concrete foundation to 500 mm above the floor.
2. Sketch two different types of foundation which might be suitable for two storey dwellings. Describe how both types of foundations are constructed and outline the conditions which would lead you to choose one type or the other.
3. Write short notes on the various uses of timber in building construction. With the aid of sketches describe the process of natural seasoning.
4. Sketch a section through a domestic cold water storage tank. Show how the tank is supported and protected. Name three connections commonly required and suggest a suitable size for each of them.
5. Give a brief account of the functions of the following occupations associated with building:  
(a) Architect;  
(b) Clerk of Works;  
(c) Builder;  
(d) Carpenter;  
(e) Plumber.
6. Explain the terms *relative humidity* and *dew point* as they relate to condensation in a dwelling. Why is condensation considered a problem in buildings? Suggest procedures which might be successful in eliminating it.
7. Use sketches to illustrate the construction of a timber front door in a dwelling. Name and give suitable sizes for the parts. Suggest suitable choices of timber and give details of two different finishes which might be applied to the door to protect it from the effects of weather.
8. Describe, with the aid of neat sketches, the nature and purpose of any FOUR of the following:  
(a) masonry arches;  
(b) corbels;  
(c) sleeper or dwarf walls;  
(d) concrete lintels;  
(e) concrete screeds.
9. Discuss factors to be taken into consideration when choosing floor coverings for a bathroom. Compare two suitable types of floor covering making references to:  
(a) properties; (b) maintenance; (c) durability; (d) cost.