

CONSTRUCTION STUDIES - PART I (THEORY)

ORDINARY LEVEL

THURSDAY, 24 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. A timber window, with outward opening sash, is to be fixed in a 300 mm insulated cavity wall which is rendered externally and has hardwall plaster internally. Draw, to a scale of 1:5, a vertical section through the head of the window and sash showing all relevant construction details from 300 mm above the window frame to 100 mm below the sash.
2. By means of notes and sketches describe TWO different types of central heating systems suitable for a family home. List the advantages and disadvantages of each system.
3.
  - (a) What is the function of thermal insulation?
  - (b) Describe with the aid of sketches how thermal insulation is used in each of the following locations: (i) the roof; (ii) the walls; (iii) the floor.  
In each case state the type of insulation used and explain the factors influencing the choice of thickness.
4. With the aid of sketches describe TWO methods of supporting shelves suitable for holding books. Compare the advantages of each method and state where they might be properly used.
5. Explain in detail the sequence of operations required for preparing and painting new timber for use externally.
6. Discuss factors to be taken into consideration when choosing floor finishes for a kitchen. Compare any two types of floor coverings suitable for a kitchen making reference to: (a) properties; (b) maintenance; (c) durability.
7. Describe and illustrate how openings for windows and doorways are formed in brick walls.
8. With the aid of neat sketches describe the nature and purpose of any FOUR of the following:
  - (i) vapour barrier;
  - (ii) damp proof course;
  - (iii) cavity closure;
  - (iv) wall tie;
  - (v) hardcore.
  - (vi) concrete foundation.
9. Describe how you would survey the condition of a seventy years old bungalow and indicate where you would expect problems to occur.