



Leaving Certificate Examination 2008

Construction Studies
Theory - Ordinary Level

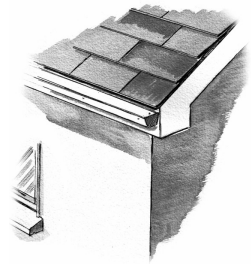
(200 marks)

Wednesday, 18 June
Afternoon 2:00 to 4:30

- (a) Answer **Question 1** and **three** other questions.***
- (b) All questions carry equal marks.***
- (c) Answers must be written in ink.***
- (d) Drawings and sketches to be made in pencil.***
- (e) Write the number of the question distinctly before each answer.***
- (f) Neat freehand sketches to illustrate written descriptions should be made.***
- (g) The name, sizes, dimensions and other necessary particulars of each material indicated must be noted on the drawings.***

1. The sketch shows a tiled roof of a dwelling house, which is supported on a 300 mm external concrete block wall with an insulated cavity. The roof has a pitch of 30° and is a traditional cut roof.

- (a) To a scale of 1:5, draw a vertical section through the eaves of the tiled roof and the external wall. Show all the construction details from 400 mm below the wall plate, through the eaves, and include **three** courses of tiles.
- (b) On your drawing, show a method of providing ventilation to the roof members.



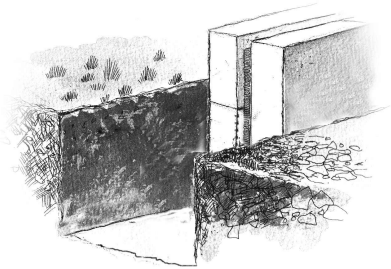
2. Strip foundations are widely used for modern dwelling houses.

- (a) Using notes and **neat freehand sketches**, show the construction of a strip foundation for the external wall of a dwelling house.

Include the following in your sketch:

- depth of trench;
- width of foundation;
- thickness of foundation;
- position of a 300 mm wall on the foundation.

- (b) On your sketch, show **one** design detail to ensure that the foundation is strong enough to support the external wall and the roof of the house. Include **two** typical dimensions.



3. (a) Using a **single-line labelled diagram**, sketch a system to supply **cold** water to a wash hand basin and a water closet (WC) in a bathroom, as shown in the accompanying sketch.

Include the following in your diagram:

- water storage tank;
- rising main;
- pipework to wash hand basin and WC;
- typical sizes of pipework;
- all necessary valves.

- (b) Using notes and **neat freehand sketches**, show how the level of water is controlled in the cistern of the WC.

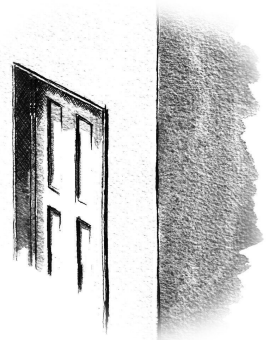


4. A four panel solid wooden door and doorframe are fixed in the external wall of a dwelling house, as shown in the accompanying sketch.

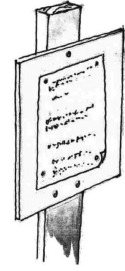
The doorframe is 120 mm x 75 mm and the top rail of the door is 120 mm x 50 mm. The wall is a 300 mm concrete block wall with an insulated cavity and is plastered on both sides.

- (a) To a scale of 1:2 (*half full size*), draw a vertical section through the external wall, doorframe and door. Show all the construction details from the 250 mm below to 350 mm above the concrete lintel at the door head.

- (b) Include on your drawing a design detail to ensure that moisture does not penetrate to the inner leaf of the wall at the door head.



5. (a) State **two** reasons why it is necessary to apply for planning permission to erect a dwelling house.
- (b) Explain what is meant by **outline planning permission** and describe one situation where a person might wish to apply for outline planning permission.
- (c) Discuss in detail **two** reasons why a planning authority might refuse to grant planning permission for a dwelling house in the countryside.

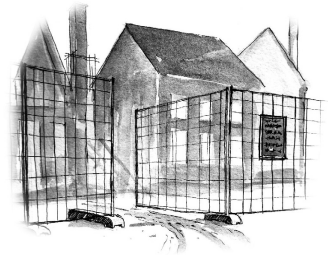


6. Thermal insulation is used to reduce heat loss through the external walls of a dwelling house.
- (a) Using notes and **neat freehand sketches**, show the location of a rigid insulation board in the cavity of an external wall of concrete block construction. Show the typical thickness of the insulation board.
- (b) Using notes and **neat freehand sketches** show how the insulation board is held in place in the cavity.
- (c) Using notes and **neat freehand sketches** show another method of insulating the external wall of the house.

7. (a) List **two specific** safety precautions to be observed in **each** of the following situations:

- using a pillar drill in the Construction Studies room;
- fitting a double-glazed unit in a wooden window frame;
- using a contact adhesive to fix veneer to a wooden panel.

- (b) Sketch **two** safety signs that should be displayed at the entrance to a construction site, as shown in the accompanying sketch, and explain the purpose of each safety sign.



8. Explain, with the aid of notes and **neat freehand sketches**, any **five** of the following:

- dovetail joint;
- through and through sawing;
- damp proof membrane;
- pre-stressed concrete lintel;
- plasterboard;
- gully trap;
- inspection chamber.

9. The accompanying sketch shows a chalet with an external wooden cladding.

- (a) Choose a suitable wood for the external cladding and give **two** reasons for your choice.
- (b) Recommend a suitable applied finish to help preserve the cladding and, using notes and **neat freehand sketches**, describe the steps involved in applying the finish.
- (c) The chalet shown is designed to help protect the cladding from the weather. Using notes and **neat freehand sketches**, show **one** design feature that helps protect the cladding from the effects of the weather.



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Coimisiún na Scrúduithe Stáit
State Examinations Commission

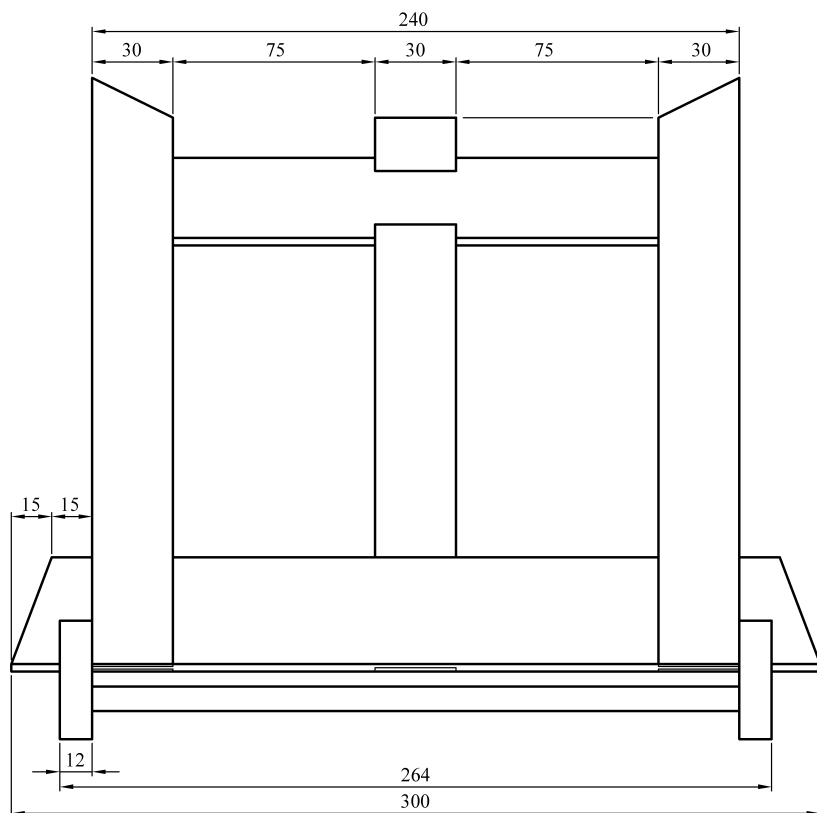
Scrúdú Ardteistiméireachta 2008
Leaving Certificate Examination 2008

Staidéar Foirgníochta
Adhmadóireacht -Triail Phraiticiúil

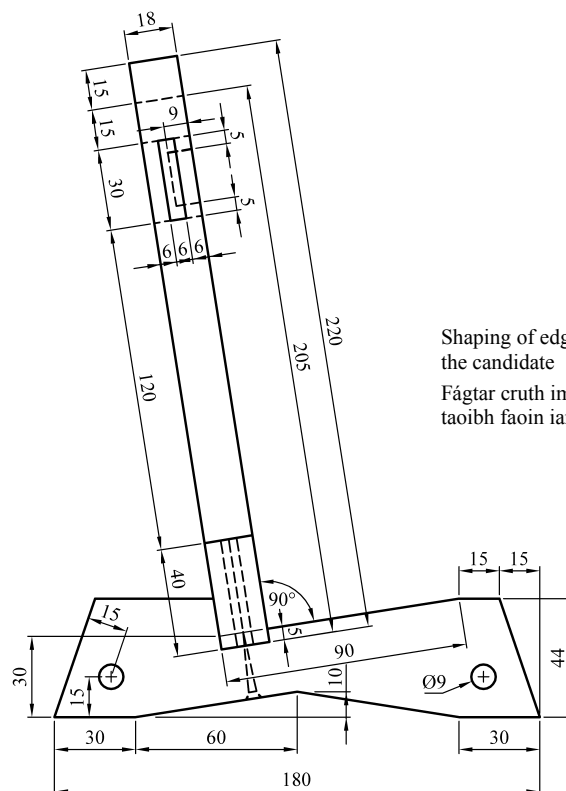
Construction Studies
Woodwork - Practical Test

(150 marc/marks)

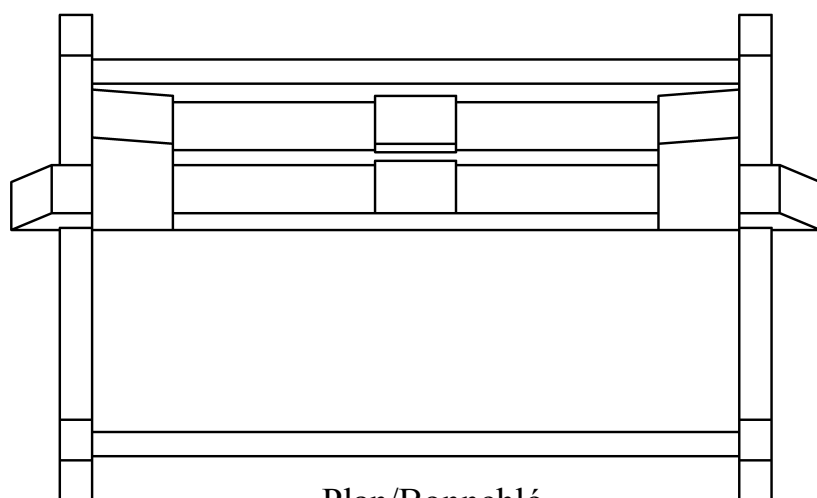
Bookstand / Seastán Leabhar



Elevation/Aghaidhchló

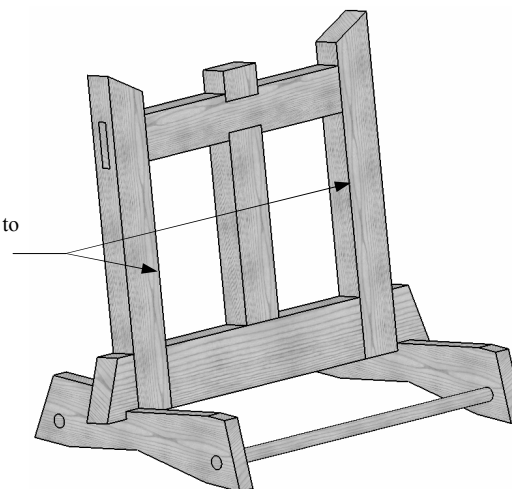


End View/Taobhchló



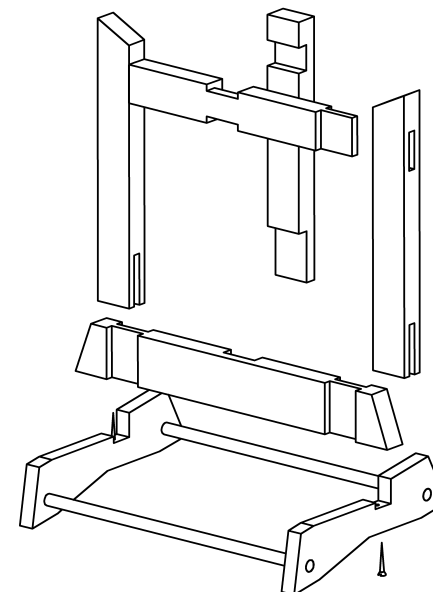
Plan/Bonnchló

Shaping of edge is left to the candidate
Fágfar cruth imeall an taoibh faoin iarrthóir



Note: Hand up this examination paper to the **Superintendent** at the end of examination.

Nóta: Tabhair ar ais an scrúdpháipéar seo don **Fheitheoir** ag deireadh an scrúdaithe.



Hand up this examination paper to the
Superintendent at the end of the examination

Tabhair ar ais an scrúdpháipéar seo don
Fheitheoir ag deireadh an scrúdaithe