

1933

## Building Construction (2nd Year): Technical School Examinations 1933

Department of Education: Technical Instruction Branch

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# COURSE IN BUILDING.

(32)

## AN ROINN OIDEACHAIS.

(Department of Education.)

## BRAINSE AN CHEÁRD-OIDEACHAIS.

(Technical Instruction Branch.)

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### TECHNICAL SCHOOL EXAMINATIONS.

1933

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#### BUILDING CONSTRUCTION.

(Second Year.)

*Thursday, May 18th—7 to 10 p.m.*

*Examiner—W. S. BLAIR, ESQ.*

*Co-Examiner—F. W. SINCLAIR, ESQ.*

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#### GENERAL INSTRUCTIONS.

You are carefully to enter on the Answer Book and Envelope supplied your Examination Number and the subject of examination, but you are not to write your name on either. No credit will be given for any Answer Book upon which your name is written, or upon which your Examination Number is not written.

You must not have with you any book, notes, or scribbling paper.

You are not allowed to write or make any marks upon your paper of questions.

You must not, under any circumstances whatever, speak to or communicate with another candidate; and no explanation of the subject of the examination may be asked for or given.

You must remain seated until your answer-book has been taken up, and then leave the examination-room quietly. You will not be permitted to leave before the expiration of twenty minutes from the commencement of the examination, and will not be re-admitted after having once left the room.

If you break any of these rules, or use any unfair means, you are liable to be dismissed from the examination, and your examination may be cancelled by the Department.

*Three hours are allowed for this paper. Answer-books, unless previously given up, will be collected at 10 p.m.*



9. Draw the upper part of a door-opening 3 feet 3 inches wide, in a snecked rubble wall. The opening to have dressed stone facings with chamfered edge, dressed stone lintel 11 inches deep chamfered on lower edge to match facings and a dressed stone segmental relieving arch over. Scale  $\frac{3}{4}$  inch to 1 foot.

10. Name and describe two limestones, two sandstones and two granites, stating the purpose for which each is best suited. Preference should be given to stones from Irish quarries.

11. What is meant by "seasoning" timber? Why is it necessary? How is it done?

If a thick plank is cut from the heart of an oak log and another from near the outer part of the tree, what changes of form would you expect to take place during seasoning? Illustrate your answer with sketches.

12. Draw a section through an intercepting trap showing its connection with the sewer and with the house drain. What is the object of this trap and where should it be placed in a drainage system.

13. Describe the most frequent causes of dampness in the walls of dwelling houses. What remedies would you suggest in each case?

14. The ceiling of a room is to be finished "Lath, lay, float and set." Describe the process throughout and specify the nature and proportions of the materials used in each stage of the work.

## INSTRUCTIONS.

Read the General Instructions on page 1.

- (a) Not more than six questions should be attempted.
- (b) Answers must be written in ink. Diagrams may be in pencil.
- (c) Small diagrams and sketches, to illustrate written descriptions, should be made upon squared paper.
- (d) Write the number of the question before the answer.
- (e) Equal values are assigned to the questions.

1. Make sketches illustrating three of the following:—  
(a) Bricklayer's hod; (b) Gib and cotter; (c) Lewis (for hoisting); (d) Bow-saw; (e) Slater's hammer.

2. Make drawings to a scale of one-twelfth illustrating the terms in brickwork "Racking back" and "Toothing." Fill in the joints of the brickwork and name the bond you use.

3. Draw plans, one-eighth full size, of two consecutive courses of a square brick pier of  $31\frac{1}{2}$  inch side in Flemish bond.

4. Show the timbering required for a trench 9 feet deep and 4 feet wide when the soil is loose and liable to crumble. Name the timbers and give their scantlings.

5. Draw a vertical section through a fireplace in an upper floor, to show back and front hearth, joists, trimming and flooring. Dimension the different parts and state the scale you use.

6. Make a line diagram, to a scale of  $\frac{1}{8}$  inch to 1 foot, of a queen-post roof truss for a span of 45 feet. Draw details of the head and foot of the queen-post to a scale of 1 inch to 1 foot. Name and dimension all the members.

7. Draw to a scale of 1 inch to 1 foot a longitudinal section through a timber skylight, giving details of the lead work and slating at head and foot.

8. Illustrate by sketches the following terms in plumber's work:—Roll, Seam, Drip, Flashing, Soaker, Flanged joint. State where each is used.