

# AN ROINN OIDEACHAIS

(Department of Education).

## BRAINSE AN MHEÁN-OIDEACHAIS

(Secondary Education Branch).

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INTERMEDIATE CERTIFICATE EXAMINATION, 1926.

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### SCIENCE (Syllabus B).

TUESDAY, 22<sup>nd</sup> JUNE—MORNING, 10 A.M. TO 12 NOON.

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Not more than *six* questions are to be attempted.

Sketches should be drawn where necessary.

1. Make a drawing of a field with four unequal straight sides, one of which is 220 yards long. Calculate its area in acres, stating what measurements you would make in the field for this purpose and what instruments you would use.

2. Describe the action of the Common Pump. Explain why there is a limit to the depth from which water can be raised by this machine.

3. How would you find the density of ice? Explain the winter weathering of soil and the bursting of water pipes during frosty weather.

4. Give examples of the conduction, convection and radiation of heat that occur within every-day experience.

How would you demonstrate convection currents in the laboratory?

5. State the chief characteristics and properties of (a) stiff clayey soil; (b) sandy loam.

Indicate the experiments you would conduct to demonstrate their properties.

6. Describe a rain gauge and explain its use. How would you record rainfall observations?

7. What are the principal ways in which plants store up food? Explain the reason for this storage. Exemplify your explanation in the cases of the edible portion of (a) the pea; (b) the potato; (c) the turnip.

8. What is the ordinary composition of air? How would you demonstrate the presence of each of its main constituents?

9. How would you carry out in the laboratory the destructive distillation of wood?

Describe the products of the "distillation."

10. Give some sources from which lime, ammonia and potash can be obtained. Describe any one of these substances and state a purpose for which it is applied to the soil.