AN ROINN OIDEACHAIS
(Department of Education).

BRAINNSE AN MHEADHON-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1936.

LOWER COURSE.

SCIENCE (Syllabus B).

FRIDAY, 19th JUNE.—AFTERNOON, 4 TO 6 P.M.

[Not more than *six* questions to be attempted. All the questions are of equal value. Illustrate your answers wherever possible].

1. What is a barometer? Describe in detail how a simple barometer is constructed.

2. What do you understand by the terms (*a*) volume, (*b*) weight, (*c*) density of a substance? The density of aluminium is 2.71 gms. per c.c. A piece of this metal weighs 12 gms. What will be its apparent loss in weight if it is suspended in water?

3. Describe an experiment you have seen conducted to show that a dark surface absorbs heat better than a bright surface. Mention any examples from ordinary life of the use of good and bad absorbers of heat.

4. Describe carefully any process of distillation you have seen performed in the laboratory. Sketch the apparatus used.

Compare the characteristics of distilled water and river water.

5. How could it be shown that there is dissolved air in water? Sketch the apparatus required. Mention any uses of dissolved air in water.

6. What is understood by neutralisation? What substances are necessary to prepare a pure specimen of calcium nitrate by neutralisation? How is the preparation performed?

7. Of what uses to the plant is (*a*) the stem, (*b*) the root. How can you distinguish a stem from a root?

8. Describe, with the aid of a sketch, the arrangement of the parts of any simple leaf. What are the functions of leaves? Explain how some trees shed their leaves each autumn.

9. Why is oxygen a necessary element for plant growth? Explain your answer. Carbon is another essential element. How could the presence of carbon in a plant be shown by means of a simple experiment? Name the remaining essential elements for plant growth.

10. How is the heat of the body produced? In cold weather more heat is lost than in hot weather; how is it then that the body temperature remains the same?

11. Where are the kidneys situated in the body? State the functions of the kidneys.

12. In what parts of the body are the following found:— (*a*) red corpuscles, (*b*) liver. State briefly the work done by each of them in the body.