

AN ROINN OIDEACHAIS
(Department of Education).

BRAINNSE AN MHEADHON-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1935.

FULL COURSE

SCIENCE (Syllabus B).

MONDAY, 17th 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. How would you show by experiment that (a) air has weight; (b) air exerts pressure? Give examples from everyday experience which support these conclusions.

2. How would you show that the expansion of different liquids is not the same when heated through the same range of temperature?

3. What are the conditions most favourable to evaporation? Describe two simple experiments to illustrate your answer.

4. What is the composition of ordinary air? Tabulate the properties of two of its constituents and sketch the apparatus you would use to prepare any one of them.

5. A piece of metal weighs 10.25 gm. in air, 6.15 gm. in water, and 7.01 gm. in turpentine. Calculate the relative density of the metal and of turpentine.

State the principle on which your answer is based.

6. How would you prepare hydrogen in the laboratory? How would you demonstrate the principal properties of the gas?

7. How would you conduct an experiment to determine the percentage germination of a sample of grass seed?

8. Name any plant which has both underground and overground stems. Make a drawing showing the parts of the underground stem and state the benefits to the plant of having this form of stem.

9. Name the constituents of blood and state the work the blood does in the body.

10. Describe an experiment showing the effect of light and darkness on the growth of seedlings. State what may be learned from the experiment.

11. Milk contains water, proteins, fats, carbohydrates and ash. State the uses of these constituents in the body. How would you demonstrate by a simple test (a) the presence of ash in milk ; (b) the presence of protein in milk ?

12. What becomes of the water taken up by the roots of a plant ? Describe an experiment which supports your answer. What conditions would affect the result of your experiment ?