

AN ROINN OIDEACHAIS
(Department of Education).

BRAINNSE AN MHEÁN-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1934.

LOWER COURSE.

SCIENCE (Syllabus D).

FRIDAY, 15th 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].

Q. 1. Describe two experiments you have seen which show that air has weight. How does the weight of air compare with that of (a) hydrogen, (b) carbon dioxide?

Q. 2. What is an oxide? Name and state the properties of three oxides, one of which is a solid, one a liquid, and one a gas.

Q. 3. How does each of the following contribute to the health and development of the body:—nutritious food; pure air; suitable clothing; physical exercise; and cleanliness?

Q. 4. If some cocoa is shaken up with distilled water, how would you find out if any of it has been dissolved? How would you shew that tap water contains dissolved air?

Q. 5. Describe any experiments you have seen performed which showed the effect of heat on (a) a liquid, (b) a gas.

Q. 6. What causes convection currents in air? How would you demonstrate the presence of convection currents in air? Describe the circulation of air in a properly ventilated room.

Q. 7. Make a careful sketch of any hydrometer you have seen used. An egg is put into some brine and comes to rest about half way down in the liquid. What facts about the egg could you determine if you had a hydrometer?

Q. 8. Give a short account of the nervous system.

Q. 9. Set out in tabular form the properties of the following substances:—lime water; rain water; distilled water, so as to shew their essential similarities and differences.

Q. 10. Why is it that (a) a damp cloth exposed to draught becomes cold?; (b) a scald caused by steam from boiling water is more severe than a scald received from the boiling water itself?; (c) the air is colder during a thaw than it was before the ice began to melt?

Q. 11. What are the functions of blood? Through what system of vessels is blood conveyed to the lungs and returned to the heart.

Q. 12. Explain with the aid of diagrams (a) how a lever is used as an instrument for comparing weights, (b) the action of the forearm as a lever.