

AN ROINN OIDEACHAIS.
(Department of Education).

BRAINNSE AN MHEADHON-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1937.

FULL COURSE.

SCIENCE (Syllabus D).

FRIDAY, 18th 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. Explain with the aid of a diagram the hot water supply system of a house. What dangers arise in using such a system? How may they be averted?

2. Given a solution of brine in which an egg neither floats nor sinks, explain how you would prove the truth of the assumption that the egg and the brine have the same weight per cubic centimetre.

3. Describe in detail how you would make a sample of soap in the laboratory.

4. Given a uniform stick weighing 4 ozs., a graduated ruler, a 2 oz. weight and some string, explain with the aid of diagrams, how using this apparatus, you would weigh out a half-pound of butter.

5. Draw an outline of the human trunk. Sketch in it, in their proper positions, the heart, liver, stomach, lungs, diaphragm, pancreas and kidneys.

6. The fact that Ireland is an island affects the climate. Explain why this is so. Describe an experiment to support your answer.

7. Explain how exercise affects the working of the skin, cells of the body, nervous system, peristalsis and the liver. Give reasons for your answer in each case.

8. Explain the following :—

- (1) Why a damp muslin cloth placed over butter will keep it cool on a warm day,
- (2) Why it is more painful to be scalded by steam than by boiling water,
- (3) What happens when bread is toasted.

9. What first aid treatment would you give to a person suffering from (a) a simple cut, (b) a burn, (c) a bruise, (d) a broken collar bone ?

10. Describe in detail how you would compare the quantities of hydrochloric acid required to neutralise equal weights of caustic potash and caustic soda. Name the salt formed in each case.

11. Describe the preparation and properties of carbondioxide. Explain the presence of this gas in your breath.

12. How would you find the weight of a litre of air ?