

# AN ROINN OIDEACHAIS

(Department of Education).

## BRAINSE AN MHEÁN-OIDEACHAIS

(Secondary Education Branch).

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INTERMEDIATE CERTIFICATE EXAMINATION, 1928.

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### SCIENCE (Syllabus D).

TUESDAY, 19th JUNE.—MORNING, 10 A.M. TO 12 NOON.

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

All questions are of equal value.

1. How is the heat in the human body generated? Explain how the body loses heat. Why does a garment made of loosely woven cloth feel warmer than one made of a closely woven fabric?
2. For what purpose is a hydrometer used? Describe an experiment to show that a body that floats in a liquid displaces its own weight of the liquid.
3. What is meant by temperature? On what principle is the thermometer based? What are the essential differences in thermometers used for determining the temperatures of (1) an oven, (2) a bath, (3) the human body.
4. Sketch the apparatus you would use to obtain a quantity of pure water from a solution of salt. What is meant by a saturated solution?
5. What is a lever? Give two common examples of levers—(a) with the fulcrum at the end, (b) with the fulcrum not at the end. Describe with a sketch how the forearm acts as a lever when lifting a weight.
6. State the chief gases present in ordinary air. You are given four jars each containing one of the following gases—carbon dioxide, nitrogen, oxygen and hydrogen. What tests would you carry out to determine which was which?

7. What is the difference between a burn and a scald? What is the chief precaution to be taken when rendering First Aid in the case of a severe burn and why?

8. What do you understand by neutralisation? Name two common household acids and two common household alkalies with examples and reasons for their uses.

9. What makes water hard? How would you determine which of two samples of water contained temporary and which permanent hardness? How may the hardness be removed in each case?

10. Describe briefly experiments to show convection currents in (a) air, (b) water. Explain how use is made of these facts in the heating of rooms and dwelling houses.