

AN ROINN OIDEACHAIS

(Department of Education).

BRAINNSE AN MHEADHON-OIDEACHAIS

(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1937.

FULL COURSE

SCIENCE (Syllabus B).

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. Describe, with the aid of a sketch, a thermometer which would automatically record the lowest temperature reached during a given period. Explain its action.

2. What do you understand by the term specific gravity? How would you find the specific gravity of a powder which is not soluble in water?

3. Describe experiments you would conduct to determine whether water or air expands more when heated through the same range of temperature. Mention any special precautions necessary for accuracy.

4. Sketch the apparatus you would use to pass dry hydrogen over heated copper oxide. State the precautions you would take in making the experiment. What products would you expect to find? Give reasons for your answers.

5. Describe how hydrochloric acid gas may be prepared in the laboratory. Mention its principal properties. What simple tests would you make to distinguish between hydrochloric acid and sulphuric acid?

6. What types of matter are usually found to be dissolved in tap-water? What are their sources? Describe how any one of them may be removed.

7. Describe briefly the process of starch formation in the leaves of plants. State the conditions upon which starch formation in leaves is dependent.

8. State in tabular form the differences between monocotyledons and dicotyledons. Name four examples of each group.

9. Describe a simple experiment you have seen performed to show that a living plant transpires. State the conditions which influence this transpiration.

10. Describe carefully the situation of the following in the human body: (a) the liver, (b) the kidneys, (c) the salivary glands. State briefly the functions of any two of these three.

11. Make sketches of the human heart showing its various parts. What is the function of each part?

12. Name the parts of the body in which digestion of food takes place and give a brief description of the process of digestion in each part.