

**AN ROINN OIDEACHAIS**  
(Department of Education).

**BRAINNSE AN MHEADHON-OIDEACHAIS**  
(Secondary Education Branch).

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**INTERMEDIATE CERTIFICATE EXAMINATION, 1937.**

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**LOWER COURSE.**

**SCIENCE (Syllabus B).**

*FRIDAY, 18th JUNE.*—AFTERNOON, 4 TO 6 P.M.

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[Not more than *six* questions to be attempted. All the questions are of equal value. Illustrate your answers wherever possible].

1. What is meant by conduction of heat? Describe an experiment to show that water is a bad conductor of heat. Name four other bad conductors of heat.

2. What do you understand by the term specific gravity? A flask filled with water weighs 170 grm. 36 grm. of iron nails are dropped in, the water being allowed to overflow. The flask and contents now weigh 201 grm. Calculate the specific gravity of the nails.

3. Describe an experiment you have seen performed to show the action of a siphon. Explain how the siphon acts. A vessel contains mercury. The edge of the vessel is four feet above the surface of the mercury in the vessel. Could you siphon the mercury over the edge of the vessel? Give reasons for your answer.

4. Explain the difference between a mechanical mixture and a chemical compound. Why is atmospheric air regarded as a mixture?

5. Name five different gases whose properties you have seen demonstrated. State the characteristic properties of each gas you name.

6. Describe how nitric acid may be prepared in the laboratory. Sketch the apparatus used. What are the properties of nitric acid?

7. What evidence have you to show that a seed contains (a) a young living plant, (b) food ?

8. In what parts of a tree is (a) wood, (b) bast found ? Illustrate your answer by means of a simple sketch. What are the functions of (a) the wood, (b) the bast ? Describe briefly what you would expect to happen if a complete ring of bark and the layer immediately in contact with it are removed from the stem of a tree.

9. What is (a) a seed, (b) a fruit ? Describe with the aid of a sketch the appearance and structure of any fruit you know.

10. What are carbohydrates ? Name three foods rich in carbohydrates. What changes do carbohydrates undergo (a) in the stomach, (b) in the intestines ?

11. Make a sketch of the alimentary canal showing its various parts and state the functions of each part.

12. Describe with sketches the circulation of the blood in the body.

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