AN ROINN OIDEACHAIS
(Department of Education).

BRAINSE AN MHEÁN-OIDEACHAIS
(Secondary Education Branch).

LEAVING CERTIFICATE EXAMINATION, 1932.

PASS.

CHEMISTRY.

FRIDAY, 3rd JUNE.—AFTERNOON, 4 P.M. TO 6 P.M.

(*a*) Not more than *six* questions to be attempted. All questions are of equal value.

(*b*) Chemical reactions should be expressed in words and represented by chemical equations.

(*c*) Answers should be illustrated by sketches wherever possible.

1. What is meant by the terms "physical change" and "chemical change"? Give three examples of each type of change.

2. Enunciate the following:—(*a*) Boyle's Law (*b*) Charles' Law (*c*) Law of Constant Proportions (*d*) Avogadro's Hypothesis (*e*) Gay-Lussac's Law of Volumes.

3. Describe the preparation and properties of nitric oxide. What would be the result of passing this gas over strongly heated copper?

4. Define "Chemical Equivalent of an element."
0·654 grm. of a metal, when dissolved in hydrochloric acid, liberated 244 c.c. of hydrogen at 17°C and 750 mm. pressure. Find the equivalent of the metal. (One litre of hydrogen at standard temperature and pressure weighs ·09 grm.).

5. Describe fully how you would determine experimentally the density of ammonia gas.

6. What is the effect of heat on the following:—(*a*) mercuric oxide (*b*) calcium carbonate (*c*) ammonium nitrate (*d*) sodium bicarbonate (*e*) lead nitrate? Give equations and name the products formed.

7. Describe a laboratory method for the preparation of sulphur dioxide. Give the properties of the gas, and explain its action as a bleaching agent.

8. How may the following acid radicles be detected:—(*a*) carbonate (*b*) sulphide (*c*) chloride (*d*) sulphate? Give equations.

9. What volume of $\frac{N}{10}$ hydrochloric acid would be required to neutralise 500 c.c. of a solution containing 5 grm. of sodium hydroxide per litre?
(Na=23; Cl=35.5; O=16; H=1).

10. Describe the preparation of ethylene. Compare its properties with those of methane.