2. Calculate the weight of ammonium nitrate which must be decomposed in order to afford one litre of nitrous oxide gas, measured at 15 C. and under 740 m.m. pressure.

3. Describe the modes of origin and properties of sulphur dioxide. How could you demonstrate the volumetric composition of the gas?

4. How many volumes of air are required for the complete combustion of *(a)* one volume of marsh gas, and *(b)* of one volume of olefiant gas? Specify the composition by volume of the products in each case.

5. By what tests or chemical reactions could you distinguish carbonate of lime from fluor spar.

6. Give a short account of the forms of silica met with in nature, and point out the chief characters by which crystallised silica and diamond can be distinguished.

ENGLISH HISTORY AND MODERN GEOGRAPHY.

Examiners.—HENRY CRAIK, ESQ., LL.D., M.A.; PROF. JOHN W. HALES, M.A.

[N.B.—Not more than *ten* questions are to be attempted, of which at least *two*, and not more than *four* must be questions in geography.]

HISTORY.

1. State what you know of any four of the following : Penda, Cuthbert, Caedmon, Bede, Athelstan, Offa, Dunstan, Archbishop Theodore, Alewine ; and explain the following terms : Eorl, Ealdorman, Thegn, Reeve Folkland.

2. Give a short account of the Danish invasions in the ninth and tenth centuries, and state where the chief Danish settlements were made.

3. Examine the claims of Stephen and of Matilda to the throne, and describe the effect of their struggle upon the condition of the country.

4. Describe the struggle between John and the Barons, and show how its progress was effected by the relations between John and the King of France.

5. Give an account of the relations between England and Scotland from the accession of Edward I. to the Battle of Bannockburn.

6. What do you understand by the parties of Old and New Learning in the earlier part of the sixteenth century? Name some of the leading adherents of each.

7. Describe the career of the Protector Somerset from the death of Henry VIII. to his own fall.

8. State what you know of the Scottish and Irish rebellions under Charles I., and their effect upon the Civil War.

9. Name the members of the Cabal Ministry, and state what led to its fall.

10. "William III. acted as his own Foreign Minister." Explain and illustrate this.

11. Say what you know of Bishop Burnet, Sir William Temple, John Locke, Algernon Sidney, the first Earl of Shaftesbury, the Duke of Schomberg, General Sarsfield, and the part played by each in the public affairs of their time.

GEOGRAPHY.

12. Name the provinces of Ireland, stating the chief towns in each, and the approximate population of each town.

13. What are the chief centres of the coal, iron, and cotton industries of England? Give any circumstances which account for the development of each.

14. Draw a map either of Yorkshire, Lancashire, or Aberdeenshire, showing the principal towns and rivers in each, and the counties by which each is bordered.

15. Compare the extent of seaboard in Britain, France, Germany, and Italy, respectively.

16. State the chief directions of English colonial enterprise during the present century.

17. Draw a map of the Mediterranean Sea, showing the situation of the countries which it touches, and marking the position of the Islands. Name the Power to which each of these islands is subject.

Time—three hours.