

SCIENCE.

EDITOR, J. B. TURNER, B.A.

I.—BOTANY IN THE COURSE FOR
TEACHER'S CERTIFICATES.

The regulations of the Department of Education that have been in operation during the last two years, made the study of botany compulsory on those students who desired to write on the Form I. Examination, and left it an optional subject in Forms III. and IV. The new regulations leave it in doubt whether there will be a compulsory examination in Part I. of junior leaving students or not, and allow the subject as an optional one in Form IV. only; by regulation, however, a study of the subject will be required in Form I.

It need not be pointed out here the importance of a knowledge of botany, to the teachers especially of our rural schools. The introduction of the study of agriculture into the Public Schools makes it a necessity that the teachers of these schools should have a more extended knowledge of so closely allied a subject as botany than can be obtained during the first year in our High Schools and Collegiate Institutes. The fact that botany is an optional subject in Form IV. need scarcely be considered, as a very large number of the teachers mention-

ed do not reach that form where they might prosecute the study. Even to those who do pass up to Form IV. there is a great difficulty to be overcome on account of the time that has elapsed between the course of Form I. and that of Form IV.

The course in Form I. is taken up by students at a very early age, is of only a year's duration, and of that year only a part is available for effective work in botany, so that anything like an extended knowledge of even the flora of the particular locality is almost impossible, to say nothing of a working knowledge of botany generally. When the student has passed into the more advanced forms of the High Schools and Collegiate Institutes, he is two years, at least, in reaching Form IV. where he can again undertake the work of this subject, and by that time he will find that much that he had learned, and learned well, has become hazy and indefinite to him, requiring that some of the work at least be done over again.

There are, doubtless, difficulties in the way of making the curriculum more satisfactory in this respect than it is, but it is hoped that these difficulties are not insuperable.

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FORM III., CHEMISTRY.

1. Three pieces of wire, one of platinum, one of magnesium and one of iron, are held in the flame of a gas or spirit lamp. Describe and explain the results in the three cases.

2. Describe experiments (one in each case) to prove that chemical change may be caused by (a) intimate mixture, (b) light, (c) electricity.

3. Illustrate what is meant by (a) decomposition by displacement, (b) a haloid salt, (c) reducing flame, (d) an anhydride.

4. Describe and explain the results when dry sal ammoniac (ammonium chloride) is heated in a test tube (a) alone, (b) with dry quicklime, (c) with sulphuric acid.