

to a series of questions, to each of which is assigned a numerical value; the students being strictly prohibited from any intercourse with books, notes, or each other, during the period of examination. The agricultural examination occupied two sittings, of two hours each. We give of course the paper as it was written, with only an occasional verbal correction.

*Question 1*—Define Agriculture as a *science* and an *art*.

How can a knowledge of its *Theory* and *Practice* be best acquired?

*Answer*.—1. Agriculture as a *science*, treats of the principles or laws which govern the operations of converting the inert matter of earth, air and water, into vegetable productions for the support of animal life.

2. As an *art* Agriculture treats of the *application* of these principles to practical purposes. The former gives the rules of the operations, and the reasons for them. The latter applies the rules advanced by science.

The best mode of acquiring a thorough knowledge of the science and practice of Agriculture, authors of high repute seem somewhat to differ.

Stephens—a good authority in practice—says, this can be best done by living with a farmer, who is a good practical man, and who has in his house an instructor in the theory or science, daily pointing out on the farm the practical application.

On the other hand, Professor Norton is in favour of the plan adopted in University College—attending lectures on the theory and practice as given by a Professor, and afterwards reducing their principles to practice on the farm during the active season of sowing, growth and maturity. To such as have had some experience on a farm, this seems the most suitable plan; or instead of this, attending some Agricultural School with a suitable farm attached, and learning both theory and practice at the same time.

*Question 2*.—Mention those branches of physical science which have relations to Agriculture;—with illustrations.

*Answer*.—The various departments of Physics or Natural Philosophy relating to Agriculture are—

1. Motion, the moving powers, their nature, laws and operation, the effects of machinery. Mechanics.

2. The weight, pressure and equilibrium of fluids. Hydrostatics.

3. The motion of fluids in pipes or otherwise, and their capability and value as moving powers. Hydraulics.

4. The action of light on vegetation. Optics.

5. The nature, laws and effects of heat.

6. The laws of electricity, and other meteorological phenomena.

7. The nature of air as regards its properties of weight, temperature, motion, &c., and the signs which foretell these movements. Pneumatics.

8. Chemistry, explaining the nature and composition of all bodies, and the laws of their combination.