

## EXAMINATION FOR B.A.

### NATURAL PHILOSOPHY.

EXAMINER: PROFESSOR WILLIAMSON.

1. What is meant by latent heat? what by capacity for heat? Illustrate by examples.
2. What are the relations of the atmosphere to plants and animals?
3. Describe the double-barrel air-pump.
4. Show how to find the specific gravity of a solid by means of the hydrostatic balance. A piece of platinum weighing 52.15 grains loses on immersion in water 2.50. Find the specific gravity of the platinum.
5. Explain what is meant by induced electricity. How does it differ from electricity communicated by contact with an electrified body?
6. State the laws of reflection and refraction of light, and show how these laws are determined by experiment.
7. Find the focal distance of a lens whose thickness is inconsiderable, and show which kinds of lenses will make parallel rays converge or diverge.
8. What is meant by the dispersion of light? by the dispersive power of any substance? What relation must exist between the focal length of two lenses in order to form an achromatic combination?
9. Describe Newton's Telescope.
10. Explain the structure of the Eye.