

APPENDIX F 10.

ROYAL MILITARY COLLEGE OF CANADA.

SUMMARY OF INSTRUCTION IN EXPERIMENTAL PHYSICS.

Total Marks..... 2,500

2nd Class.—Elementary Course.—Obligatory.

Constitution of matter. Physical condition of matter. Units of measurement. Metric system. Laws of motion. Atomic and molecular forces. Varieties of energy ; conservation of energy. Undulations, sounds, vibrations of sounding bodies. Temperature, expansion of solids, liquids and gases, by heat, changes of state and other effects of heat, conduction and connection, specific and latent heat, mechanical equivalent of heat. Radiant energy, its nature and connection with other forms of energy, reflection and refraction of light, simple optical instruments, dispersion by prism, radiation and absorption of light. Outlines of electricity and magnetism, development and measurement of electricity, electrical induction, electrical machines. Magnetism, voltaic batteries, reciprocal action of magnets and currents, voltaic induction, effects of electric current. Connection of different forms of energy. *Text Books* :—Balfour Stewart's "Elementary Physics." N.B.—The voluntary course embraces a more detailed course in the above subjects.

ALLOTMENT OF MARKS IN PHYSICS.

2nd Class.

	Obligatory.	Voluntary.
Notes and Recitations	200
Examinations.....	400	200

1st Class—(Obligatory).

General properties and physical conditions of matter. Theory of the constitution of matter. Gravitation, molecular and atomic forces. Capillarity, endosmose, diffusion. Properties of gases, atmosphere, barometers, elastic force of gases and its measurement, apparatus founded on the properties of air. *Sound*.—Production, propagation and reflection of sound, measurement of vibrations, vibrations of stretched strings, columns of air, rods, plates and membranes. Physical theory of music. *Heat*.—Expansion of solids, liquids and gases ; thermometers ; changes of physical condition and attendant phenomena. Conduction, reflection, absorption and radiation of heat. Calorimetry. The steam engine. Theory of heat. Mechanical equivalent of heat. *Light*.—Transmission, velocity and intensity of light, reflection and refraction of light, mirrors and lenses, optical instruments, the eyes. Dispersion, achromatism, interference, polarisation, phosphorescence. *Magnetism*.—The magnet and its properties. Terrestrial magnetism. The compass. Declination and inclination. Law of magnetic attractions and repulsions. Magnetisation.