are suggested for several of the departments. In other departments, where no text books are named, the treatises in general use in the schools and colleges in Upper Canada are recommended; but it is distinctly to be understood, that in so doing no opinion is pronounced as to their comparative merits. Real knowledge, however or wherever acquired, will be accepted, and the exposition of a subject in the candidate's own words will be preferred by the examiners.

I. Arithmetic.

Fundamental rules of Arithmetic; Proportion, Simple and Compound; Practice; Interest; Fractions, Vulgar and Decimal; Extraction of Square and Cube Roots.

The Examiners will take into account not only the correctness of the answers, but the excellence of the method by which they are worked out, and the clearness and neatness of the working (which must always be shown).

II. Book=Keeping.

Book-keeping by Single and Double Entry; Drafts of the various forms of Bills of Exchange, Promissory Notes, Invoices, &c.; and an accurate knowledge of the various books used in the counting house.

III. English Grammar and Composition.

Grammatical Analysis of Sentences in Prose and Poetry; Composition on a given subject.

IV. Geography.

Political Geography. General Questions in Ancient and Modern Geography; Maps drawn from memory; Explanation of Geographical Definitions; Mathematical Geography; Physical Geography; Outlines of Physical Geography.

V. Penmanship.

Business Hand. An even round hand, without flourishes, will be preferred.

Specimens to be selected by the local committees, and forwarded to the Board, on the same conditions as specimens in department IX.

VI. Algebra.

Algebraic Fractions, Square and Cube Root, Simple and Quadratic Equations, Single and Simultaneous, Ratio and Variation. Candidates should be prepared to give explanations of Elementary Principles and proofs of Fundamental Propositions.

Text Books. — Colenso's Algebra or Bridges' Algebra.

VII. Geometry.

A facility in solving geometrical theorems and problems, deducible from the first four books of Euclid, will be expected on the part of those who desire to obtain certificates of the first or second class.

Text Books-Euclid, Books I, II, III & IV.

VIII. Principles of Mechanics.

The Properties of Matter, solid, fluid and gaseous. Statics: The composition, resolution and equilibrium of pressures acting on a material particle; constrained particles; machines; attractions.

Dynamics: gravitation; collision; constrained motions; projectiles; oscillations. Rigid Dynamics: Motion of a rigid body about a point; of a free rigid body; of a system of rigid bodies.

Hydrostatics: Pressures of fluids; equilibrium of floating bodies; specific gravity; elastic fluids; machines; temperature and heat; steam; evaporation.

Hydrodynamics: Motion and resistance of fluids in tubes, &c.; waves and tides.

Pneumatics: Mechanical properties of the air; the barometer.

Text Book-Silliman's Natural Philosophy.

IX. Geometrical and Decorative Drawing and Modelling,

Orthographical Projection, or Geometrical Drawing, of Architectural or Engineering subjects, Machinery, &c.

Linear Perspective.

Original Designs.

Models of figures, groups, foliage, &c., connected with the Fine or Decorative Arts.

The local committees will select, and forward to the Board, such specimens of Drawing and Modelling as they may deem worthy, and which they shall certify to be the work, solely, of the candidate named, who may not be an artist by profession.

X. History.

Outlines of Greek and Roman History; English History from the Norman Conquest; Canadian History.___

XI. Trigonometry.

In Plane Trigonometry, the solution of plane triangles, and the use of logarithmic tables, &c.

Spherical Trigonometry, Napier's Rules, Solution of Spherical Triangles.

XII. Mensuration.

The calculation of the areas and circumferences of plane figures bounded by right lines or arcs of circles. The superficial and solid contents of cones, cylinders, spheres, &c. Measuring and estimating artificer's work.

XIII. Practical Mechanics.

The Application of the Principles of Mechanism to Simple Machines. The Steam Engine.

Text Books—Lardner on the Steam Engine; Nasmyth's Elements of Mechanism, with Remarks on Tools and Machinery (*Weale*); Bourne's Catechism of the Steam Engine.

XIV. Conic Sections.

Analytical Conics, including the equations of the straight line, the circle, the three conic sections, and the general equation of the second degree. The Principles of Projection, Orthogonal and Central.

XV. Chemistry and Experimental Philosophy.

Physical. Elementary laws of heat, light and electricity, in connection with chemical action.

Inorganic. Chemistry of the Metalloids and Metals, laws of combining proportions, volumes of gases, vapours, &c.

Organic. Composition, properties and decompositions of alcohols, acids, &c.

Candidates are expected to be able to explain decompositions by the use of symbols. Questions illustrative of general principles will be selected from the following amongst other trades and manu-