1st and 2nd laws of motion.—Chapter II.

Uniform acceleration and the equations of motion.—Chapters III, IV, omitting proof in § 37.

Parabola of projection. Chapters V, VI, omitting § 72, 73, 75-7.

Mass and 3rd law of motion. Chapters VII, VIII. Acceleration obtained directly from $P = mf$ in § 89, 92.

Impact. Chapters IX, X. Omit § 109, proof of loss of Vis Viva in § 108-124, and continuous rebounds, § 122-3.

Motion of centre of gravity of a system $\bar{v} = \frac{\Sigma(mv)}{\Sigma(m)}$; $\bar{f} = \frac{\Sigma(mf)}{\Sigma(m)}$ proved from $x = \frac{\Sigma(mx)}{\Sigma(m)}$ Chap. XI.

Laws of motion and parallelogram of velocities. Chapter XII. Motion down a smooth curve, $v^2 = 2gh$, without proof, except for an inclined plane. The pendulum $t = \pi\sqrt{\frac{l}{g}}$ without proof. Seconds' pendulum. See Chapter XIII, § 147, 152.

Centrifugal force $= \frac{v^2}{r}$, proved differently from Chapter XIV, § 163. Gravity the resultant of the earth's attraction and centrifugal force.

Work.—Chapter XVII; also (*Tracts on Mechanics*, Part I,) omitting calculation for fly-wheel, § 24, and calculations of Moments of Inertia, § 28. Moment of Inertia and radius of gyration to be learnt for simple cases of rectangle and circle; also the formula $M(k^2 + k^2)$, without proof. Special attention to Example 16.

Marks—December, 100; *June*, 300.

Applied Mechanics—(Crofton's Lectures).

Introductory Chapter: *Stability of Structures* (Part I). Frames. Roofs. Trussed beams. Chains and cords. Stability of walls. *December.*

Strength of Materials (Part II). Stress and strain. Elasticity. Resistance to compression. Theory of beams. Bending moment expressed by the area of the diagram for shearing force. Culman's graphical method of treating stresses and finding centres of gravity. Moment of resistance for rectangular and cylindrical beams. Girders. Beams of uniform strength. Warren girder and lattice girder with diagrams. Method of sections. Partial loading. Allowance for weight of beams. Dead and live load. Sloping beams. Fixed beams.

Marks—Decemher 100; *June*, 200.

Hydrostatics—(Besant's Elementary).

Introductory chapter.

Chapter I—Omit the numbers and investigation in § 3. Alternative proof of § 10. Omit examples (11), (12).

Chapter II—Omit § 22, 29, 30.

Chapter III—Omit § 34, 35. Shorter proof of Ex. (5), § 48. Geometrical proofs of centres of pressure of the triangles in § 49.

Chapter IV, V—Omit § 80. Read over § 83. Omit § 87-9 and 93 to the end of the chapter.

Chapter IV—Omit § 98-101 and 108 to the end of the chapter.

Marks—June, 200.

Notes and Recitations.....100.

2ND CLASS—(VOLUNTARY)—2,000 MARKS.

SECTION *N.—Integral Calculus (Williamson.)*

Chapter I—Compare (*e*) with § 9; (*f*) with § 5; also Ex. (1), (2) § 13. Integrate forms involving $a + 2bx + cx^2$ or $\sqrt{a + 2bx + cx^2}$ by completing the square. Compare § 4, 22, 23, 24 with 61-3. Omit § 8.

Chapter II—Rational fractions; easy examples only with explanatory notes.