

square of the distance, the orbit is an ellipse, parabola or hyperbola according as the velocity $<, =, >$, the velocity of falling from infinity. Motion of a particle on a smooth curve; velocity acquired. Cycloidal pendulum, time of an oscillation; length of "second" pendulum; oscillation through a small circular arc. Conical pendulum. D'Alembert's Theorem. Angular acceleration. Sum of moments of impressed forces

Moment of inertia.

Compound pendulum. Centres of oscillation and suspension. Kater's method of finding the equivalent simple pendulum. Expression for the alteration of angular velocity produced by impulses. Simple investigation into the pressure on a fixed axis, centre of percussion and axis of spontaneous rotation. Application of D'Alembert's principle to the motion of two equal heavy particles connected by a light rod and constrained to move on two axes, one vertical, the other horizontal; also, of two equal weights connected by a string over two horizontal pulleys, a third weight being suddenly attached midway.

Calculations of moments of Inertia, as in Sections P. R. Special attention to the equation of Vis Viva wherever it occurs. Work done in stretching an elastic rod. Vibration of a thin vertical elastic rod caused by a falling ring stopped by a projection at its lower end.

Any motion of a plane figure in its own plane represented by roulettes, combination of rotations, motion of a solid round a fixed point, rotations round intersecting axes, application to the rotation of the earth about an axis through the zenith at any latitude, application to the derivation of elongated projectiles.

Marks—March, 400.

SECTION R. { A. B.

A. 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.

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

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

B. Notes—Elementary investigation into the distribution

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