

Mechanics of Machinery.

Conversion and transmission of motion; link work; the drag-link, crank and connecting-rod Paucelliers' straight-line motion; Watt's parallel motion; belt, rope, and frictional gearing; spur-gearing; the design of wheel-teeth; mortice, mitre, screw, and skew gearing; the universal joint; general mill gearing; the turbine and hydraulic engines; general machine problems.

Strength of Materials; and Iron Bridge and Roof Construction.

The physical nature of the various metals used in engineering work, their preparation and treatment; stress—tensile, compressive, shearing, and torsional; elastic limit, absolute strength, modulus of elasticity, permanent set; strength and design of pinned, bolted, cottered, and rivetted joints; stress in pillars, beams, and various types of girders and roofs; bridge construction and design; stress in vessels subjected to fluid pressure; stress in machines.

Principles of Civil Engineering.

Section A.—Borough Engineering : Laying-out and construction of roads; location of towns; street formation, paving, channelling, and curbing; surface-drainage and sewerage; warming and lighting public buildings, ventilation; water conservation and supply; irrigation.

Section B.—*Railway Engineering*: Reconnaissance, location, grades, gauge and curves, earth-work, bridges, tunnelling; permanent-way, switches, crossings, signalling arrangements; arrangement of station- and goods-yards, engine-sheds, water-cranes, coal-stages, and turntables; methods of working steep gradients by rack, rope, and central-rail systems; light railways and street tramways, for horse, steam, cable, and electric traction.

Section Q.—Marine Engineering : Internal navigation ; river conservation and improvement ; canal construction and details, locks, inclined planes, and lifts ; ship-canal, harbour-works, wharves, docks, slips, graving-docks, breakwaters, lighthouses, &c.

Section D.—Conduct of Work: General office routine; preparation of specifications and working drawings; taking out quantities; estimating; preparation and supervision of contracts.

Building Construction.

Section A.—General Principles : General principles in relation to materials, foundations, walls, beams, arches, floors, and roofs.

Section B.—Principles of constructive design; constructive details in carpentry, joinery, and masonry; bridge-construction in timber and stone; roof-construction.

Surveying—Theoretical and Practical.

Measurement of lines and angles with the chain, chain triangulation; simple topographical work, keeping field-book, calculation of areas, levelling; division of earth's surface by meridians and parallels; traversing with chain and theodolite; calculation of areas by mean longitudes; advanced topographical surveying; minor triangulation; advanced levelling; telemetry and use of plane table; river and marine surveying; Geodetic survey, primary triangulations, meridional circuits; American and New Zealand systems of setting out Crown lands; engineering surveys; calculation of altitudes, measurement of earth-work, gauging of rivers.

Certificates will be granted to students who attend a course of lectures and pass a satisfactory examination in any of the above subjects.

4. STATEMENT OF THE ACCOUNTS OF THE CANTERBURY COLLEGE FOR THE YEAR ENDING
31ST DECEMBER, 1891.

School of Agriculture, Capital Account.

<i>Receipts.</i>	£	s.	d.		<i>Expenditure.</i>	£	s.	d.
To Balance, 1st Jan., 1891 ..	..	53,204	16	1	By Share of rates and insurance on Sax-			
					ton's estate	18	17	5
					Cost of inspecting Burke's land	1	17	0
					Legal expenses for 1891 (mortgages)	8	9	7
					Balance	53,175	12	1
		£53,204	16	1		£53,204	16	1
To Balance, 1st Jan., 1892 ..	..	£53,175	12	1				

School of Agriculture, Building Account.

<i>Receipts.</i>				£	s.	d.	<i>Expenditure.</i>				£	s.	d.
To Balance	..	..	..	89	2	2	By Balance, 1st Jan., 1891	..	..	89	2	2	
							By Balance, 1st Jan., 1892	..	..	£89	2	2	