

Section III—Estimating.

Marks 200

SUB-SECTION A Estimating, setting out and supervision of works.

Marks Examinations..... 200

Section IV—Hydraulic Engineering.

Marks..... 1,900.

SUB-SECTION A Storage, evaporations, flow through orifices and through pipes under pressure.

Marks Examinations..... 500

SUB-SECTION B Practical construction of water works.

Marks ... { Examinations..... 400
 Drawings and Notes. 200

Section V—Mechanism and Prime Movers.

Marks.....300.

SUB-SECTION A Steam engines and water engines.

Marks Examinations..... 300

NOTE :—If a Cadet takes both the engineering and architectural courses, one-half only of the marks assigned to Section I (being common to engineering and architecture) will be counted to each subject.

CIVIL ENGINEERING COURSE.—TOTAL MARKS, 5,400.

Section I—Marks 1,900.

Nature, production and use of materials of construction (common to engineering and architecture).

(A)—*Materials, Descriptive, and Processes.*

Examination marks 400

Building Stones—Their classification, calcareous, silicious, argillaceous, sedimentary, igneous, metamorphic, sandstones, limestones, granites, slates, trap.

Durability of stone—Hardness of stone, ultimate crushing loads per square foot of brick and stone.

Production of artificial stone and brick.

Limes—Air limes, water limes, cements. Physical characteristics of hydraulic limestones; calcination of limestone; lime-kilns; farm fuel; slaking of lime; manufacture of artificial hydraulic limes and Portland cement and puzzolanas.

Mortar—Sand; manipulation; proportions. Setting and durability of mortars.

Theory of the hardening of mortars. Testing lime or cement mortars.

Concrete, Beton—Ingredients; proportions; applications.

Wood—Structure of timber; pine wood.

Leaf woods; appearances of good timber.

Influence of climate and soil.

Age and season for felling.

Seasoning, natural and artificial.