

Four methods as shown in the preceding part of this syllabus.

Limit of the safe inclination of a culvert.

Paving to be a few inches below the original level of stream.

Gauging freshet areas, ice marks of floods.

Discharge capacities of various types of culverts.

Precautions with the foundations.

Frost level, springs, scour, wing walls, artificial foundations, &c., &c.

Methods of economizing masonry in culverts by reducing length by means of wing walls, coping, &c., &c.

ESTIMATING QUANTITIES OF MASONRY AND PAVING.

In abutments, piers and culverts off the drawings.

Tabular form for culvert quantities.

Estimates and Contracts general form for Quantities from a Railway profile.

Allowance for shrinkage, balancing, excavation and embankment waste, borrowing.

Details of items.

do prices.

Various methods of letting contracts.

Schedule of prices for limit of work.

Lump sum.

Comparison and history of these methods.

SECTION IV.

Hydraulic Engineering.

SUB-SECTION (A)—WATER SUPPLY; STORAGE EVAPORATIONS
FLOW THROUGH ORIFICES AND THROUGH PIPES
UNDER PRESSURE.

Introduction :—Necessity of Public Water Supplies; Physiological Office of Water; Sanitary Office of Water Supply.

CONSUMPTION.

Quantity of water required.

Statistics of consumption.

Ancient cities; European cities; American cities.

Increasing consumption.

Relations of supply *per capita* to total population.

Monthly and hourly variations in the draught.

Ratio of Monthly consumption.

Reserve for fire purposes.