

CIVIL/DRAUGHTMAN

THEORY – I

BUILDING CONSTRUCTION :

Foundation – Objects of foundation, bearing capacity of soil, methods of improving bearing capacity of soils – types of foundation – spread footing – well and pile foundation – raft foundation – grillage foundation.

Masonry – brick masonry, stone masonry, bonds like English bond and Flemish bond in brick masonry – precautions to be taken in bricks and stone masonry – types of stone masonry.

Arches – Types of arches, flat, segmental, elliptical. Doors and windows – Types of doors and windows – fixing of doors and windows

Staircase – Parts of Staircase – types of staircase. Roof, flooring and ceiling – Flat and pitched roof – concrete – mosaic – and terrazzo flooring – materials used for ceiling.

BUILDING MATERIALS :

Stones – classification – uses – characteristics of good stones – common varieties stones – quarrying of stones – different methods – Bricks and tiles – Construction and composition of good brick earth – preparation of brick earth – burning of bricks – Hoffmans kiln – comparison of kiln burning and clamp burning – fire bricks and refractory bricks – uses and characteristics of good tiles. Lime – Cement mortar and concrete – Classification and properties – slaking of lime – preparation of mortar for masonry.

Cement – Varieties of cement – natural and artificial cement – Portland cement – quick setting cement – rapid hardening cement – their uses – manufacturing of cement – preparation of cement mortar and concrete – properties of cementing materials – hand mixing and machine mixing – laying of concrete – compaction and curing – importance of water cement ratio.

Timber – common varieties – defects in timber – seasoning of timber steel – Steels used for R.C.C. works – plain rod – ribbed bar.