CIVIL / DRAUGHTMAN

THEORY – II

SURVEYING :

Chain survey – Instruments used – brief description – chains – tapes cross staff – optical square – Principles of chain surveying – ranging and setting out chain lines – errors in ordinary chain – chaining in sloped grounds – reconnaissance – establishing survey stations and survey lines – check line, baseline, and tie line – offsets – perpendicular and oblique – obstacles in chaining and ranging and overcoming them – method of recording the field book calculations of areas from field notes.

Compass survey – Prismatic compass – Study and uses – meridians and bearings – systems of bearings – conversion of one system to another – whole circle bearing and quadrennial bearing – included angle from bearings.

Plane table surveying : Brief description and use of table and accessories – methods of plane tabling – description – advantages and disadvantages of plane tabling.

Levelling Meaning of leveling definition of datum surface – reduced level – bench mark – reduction of levels – height of collimation and rise fall method. Temporary adjustment of levels – Back sights – foresight – intermediate sight – change point.

Theodelite survey : Uses – Temporary adjustment – Ordinary method of measuring horizontal angle.

Estimation : Introduction – Methods of estimation – specification of different items of work – detailed estimation and abstract estimation of residential building.

CIVIL ENGG. DRAWING :

English and Flemish bond – cross wall, Arches flat, segmental elliptical and semicircular arches. Carpentry joint laps scarf housed joint – dovetailed mortise and tenon joint.

Doors and windows – Paneled and glazed.

Root truss – Kind post and queen post tree, steel truss, building drawing – Residential pitched, terraced and partially terraced – public building like schools and hospitals – multi storeyed building.

SURVEY PRACTICAL THEORY :

Chain survey – Ranging out survey lines, offsetting, measurement and booking field observations, computations of areas.

Compass survey – taking bearing, calculation of angles and checks Plane table survey – Methods of plane tabling – Radiation, Intersection and traversing – Temporary adjustments.

Leveling – Temporary adjustments, taking fly levels, recording of field block – reduction of levels – height of collimation methods and rise and fail method.

Theodelite – Temporary adjustments, recording of field block – measurements of horizontal angle and vertical angle by ordinary method.