

SURVEYING

UNIT – I

Introduction: Overview of plane surveying (chain, compass and plane table), Objectives, Principles and classifications, Scales, Conventional Symbols, Signals Distances and Direction: Distance measurement methods; use of chain, tape and Electronic distance measurements, Meridians, Azimuths and Bearings, declination, computation of angle.

UNIT – II

Leveling and Contouring: Concept and Terminology, Temporary adjustments- method of leveling. Characteristics and Uses of contours- methods of conducting contour surveys and their plotting.

UNIT – III

Computation of Areas and Volumes: Area from field notes, computation of areas along irregular boundaries and area consisting of regular boundaries. Embankments and cutting for a level section and two level sections with and without transverse slopes, determination of the capacity of reservoir, volume of barrow pits.

UNIT -I V

Theodolite: Theodolite, description, uses and adjustments – temporary and permanent, measurement of horizontal and vertical angles. Principles of Electronic Theodolite. Trigonometrical leveling, Traversing.

UNIT – V

Tacheometric Surveying: Stadia and tangential methods of Tacheometry. Distance and Elevation formulae for Staff vertical position. Curves: Types of curves, design and setting out – simple and compound curves. Introduction to Advanced Surveying : Total Station and Global positioning system, Introduction to Geographic information system (GIS).