

# L J School of Architecture

Syllabus for B.Arch. 2019-20

Second Year | Semester 3

Subject Code: 306|Subject: Surveying and Levelling | Credit: 02

## Course Content:

- Introduction: Principles, definitions, units, scales, symbols and instruments used in Surveying, common errors in surveying and their corrections, understanding of features and undulations of Ground. Scales used in Plotting. Study of land forms, graphic representations of landforms topography, Reading of survey Maps
- Linear Measurements, Measurements in horizontal plane, linear measurements with chain & tape, setting-out & survey stations, survey accessories, survey lines, open & closed traverse, chaining & offsetting, direct & indirect ranging, log-books, field boundaries, field area estimation. Compass survey, bearings & angles, local attractions, errors in compass survey.
- Sloping Landforms and Levelling Measurements along sloping landforms, principles, definitions, methods, instruments, & staff required for levelling, simple & differential levelling, dumpy level, adjustments, hand signals, reduced levels, rise & fall methods, errors in levelling, level tube & barometric levelling, plane-table Surveying and its two point and three point method.
- Precision methods in Landforms Survey & Measurement Theodolite surveying, temporary adjustments, horizontal & vertical angles, closing errors and balancing traverse, automated & digital surveying, total station, G.P.S, Aerial Photography, digital levels, auto-levels
- Contours in Landforms Characteristics, contour intervals, direct & indirect methods of contouring, block contour surveys, profile levelling, longitudinal & traverse cross sections, gradients, Contouring methods & equipment,, plotting contours & profiles, estimating areas & volumes.

## Methodology:

- Lectures, presentation, group work exercises.

## Reference:

1. Surveying Vol – I by Dr. B. C. Punmia
2. Surveying and leveling by - T.P. Kanetkar and S. V. Kulkarni
3. Surveying and leveling by N. N. Basak