

K L UNIVERSITY
SURVEYING (11 – CE 203)

SYLLABUS

L	T	P	Cr
3	0	2	4

Surveying Introduction - Overview of plane surveying (chain, compass and plane table), Objectives, Principles and classifications.

Distances and Direction - Distance measurement conventions and methods; use of chain and tape, Electronic distance measurements, Meridians, Azimuths and Bearings, declination, computation of angle.

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

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.

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

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 geodetic surveying,

Total Station: Introduction – Accessories with description - Features of total station – Onboard software electronic data reading - Summary of total stations characteristics - Field procedure of total stations in topographic survey, Global positioning system, Introduction to Geographic information system (GIS).

Text Books:

1. Basak N.N, “Surveying and Leveling”, Tata McGraw Hill Publishing Company Ltd., New Delhi, 1994

Reference Books:

1. Kanetkar.T.P. & S.V.Kulkarni, “Surveying and levelling part I & II ”, Puna vidyarthi girha, Prakashan,23rd edition,1993.Subramanian .R, “Surveying and Levelling”, Oxford Higher Education.

2. Arora K. R, “Surveying Vol-I”, Rajsons Publications Pvt. Ltd, 10th Edition, 2008
3. Punmia B. C, “Surveying Vol-I”, Laxmi Publications, 16th Edition, 2005.
4. Punmia B.C, “Surveying Vol-II”, Laxmi Publications, 15th Edition, 2007.

CE/BOS/CE203/0412

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LIST OF EXPERMENTS

L	T	P	Cr
3	0	2	4

1. Measurement of distance by direct ranging and chaining
2. Determination of area of polygon by chain and cross staff survey.
3. Measurement of distance by indirect ranging and chaining-obstacles for both chaining and ranging.
4. Measurement of distance by indirect ranging and chaining-obstacles for either chaining or ranging.
5. Measurement of bearings of sides of traverse with prismatic Compass and computation of correct included angle.
6. Locating given building by chain and compass traversing. (one full size drawing sheet)
7. Plane table surveying-methods.
 - (a) radiation method
 - (b) intersection method
8. Determination of elevation of various points with dumpy level
 - (a) collimation plane method
 - (b) rise & fall method
9. Measurement of horizontal angles with theodolite by method of repetition and measurement of vertical angles with theodolite.
10. Introduction on total station and its various parts.