

K L UNIVERSITY
SURVEYING (CE C 206)

SYLLABUS

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3	0	2	4

UNIT – I 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.

UNIT – II 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.

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 – IV 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.

UNIT – V Curves

Types of curves, design and setting out – simple and compound curves. Introduction to geodetic surveying, Total Station and Global positioning system, Introduction to Geographic information system (GIS).

TEXT BOOK:

1. Surveying Vol-I by K. R. Arora, Rajsons Publications Pvt. Ltd, 10th Edition, 2008

REFERENCES:

1. Surveying Vol I by B.C Punmia, Laxmi Publications, 16th Edition, 2005.
2. Surveying Vol II by B.C Punmia., Laxmi Publications, 15th Edition, 2007.
3. Surveying and Leveling by N.N Basak., Tata McGraw Hill Publishing Company Ltd., New Delhi, 1994.
4. Text Book of Surveying and Levelling by R Agor , Khanna Publishers, 2BNath Market, Nai Sarak, Delhi - 110 006, 2008.
5. Surveying and Levelling by R.Subramanian, Oxford Higher Education.
6. Surveying Vol-II by K. R. Arara, Rajsons Publications Pvt. Ltd, 10th Edition, 2008

CE/BOS/CE C206/0210

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LIST OF EXPERMENTS

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.