

GI8012 DIGITAL CADASTRE

DETAILED SYLLABUS

OBJECTIVE:

- To introduce the students to the cadastral survey Methods and its applications in generation of Land information system.

UNIT I INTRODUCTION

History of cadastral survey - Types of survey - Tax - Real Property – Legal cadastre -Graphical and Numerical Cadastre, Legal Characteristics of Records, Torrens System.

UNIT II CADASTRAL SURVEY METHODS

Steps in survey of a village - Instruments used for cadastral survey & mapping - Orthogonal, Polar survey methods - Boundary survey - Rectangulation - Calculation of area of Land- GPS and Total Station in Cadastral survey.

UNIT III PHOTOGRAMMETRIC METHODS

Photogrammetry for cadastral surveying and mapping - Orthophoto map – Quality control measures - Organisation of cadastral offices – international scenario.

UNIT IV CADASTRAL MAPPING AND LIS

Cadastral map reproduction - Map projection for cadastral maps – Conventional symbols - map - reproduction processes - Automated cadastral map, Management of Digital Cadastral. Creation of Land Information System. Integrating LIS –Land administration.

UNIT V MAINTENANCE AND MEASUREMENTS

Cadastral survey maintenance - Resurveys - Measurement of sub-division - Measurement of obstructed lines - Survey of urban areas - Control requirement for Urban survey use of Satellite Imagery in boundary fixing.

TEXTBOOKS:

1. Paul. R Wolf., Bon A. DeWitt, Elements of Photogrammetry with Application in GIS McGraw Hill International Book Co., 4th Edition, 2014
2. R. Subramanian, Surveying and Levelling, Oxford University Press, Second Edition, 2012.

REFERENCES:

1. Karl Kraus, Photogrammetry: Geometry from Images and Laser Scans, Walter de Gruyter GmbH & Co. 2nd Edition, 2007.
2. E. M. Mikhail, J. S. Bethel, J. C. McGlone, Introduction to Modern Photogrammetry, Wiley Publisher, 2001.
3. James, M. Anderson and Edward N. Mikhail, Introduction to Surveying, McGraw Hill Book Co, 1985.