

UNIVERSITY OF DELHI

CNC-II/093/1/EC-1276/25/09

Dated: 31.07.2025

NOTIFICATION

Sub: Amendment to Ordinance V

(ECR 24-5/ dated 12.07.2025)

Following addition be made to Appendix-II-A to the Ordinance V (2-A) of the Ordinances of the University;

Add the following:

The syllabus B.A. Programme Geography for semester VII/ VIII under the Department of Geography, Faculty of Social Sciences based Undergraduate Curriculum Framework 2022, is notified herewith for the information of all concerned and is annexed at ***Annexure-1***.

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31/7/25
REGISTRAR

DEPARTMENT OF GEOGRAPHY

SEMESTER VII

Category II

**Geography Courses for Undergraduate Programme of study with Geography as one of
the Core Disciplines**

(B.A. Programmes with Geography as Major discipline)

DSC-13A

DISCIPLINE SPECIFIC CORE COURSE
GEOGRAPHICAL TECHNIQUES (PRACTICAL)
(DSC 13A)

Course title & Code	Credits	Credit distribution			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
Geographical Techniques (PRACTICAL) DSC13A	4	2	0	2	Passed Class 12th	NIL

Learning Objectives

- To equip students with a robust understanding of core geographical techniques and their theoretical underpinnings, essential for rigorous spatial analysis and research.
- Students will gain an understanding of the nature, scope, elements, practices and principles of cartography and the nuanced application of map scales.
- To enable students to critically evaluate and select appropriate map projections for diverse geographical contexts
- Students will develop the ability to apply a wide range of diagrammatic and thematic mapping techniques to effectively represent, analyze, and communicate complex geographical data.
- Students will be able to organize data, construct frequency distributions, and calculate and interpret basic measures of central tendency and dispersion.

Learning Outcomes

- Students will learn to read, interpret, and create maps.
- Students will demonstrate a deep understanding of map projections, enabling them to articulate the properties, merits, and demerits of various projections and strategically choose the most suitable projection for specific mapping tasks.
- Emphasis will be placed on various thematic mapping techniques to effectively visualize and communicate spatial data, patterns, trends, and relationships within geographical datasets, and to discern the appropriate use of each method.
- Students will develop skills in applying basic statistical analysis to geographical data and their day-to-day uses.
- Students will be able to select, apply, and integrate appropriate geographical techniques (cartographic, statistical, thematic mapping) to address specific geographical research questions, from data conceptualization to final presentation.

Course Outline

Unit I: Introduction to Cartography (Theory: 15 hours)

- Nature and Scope of Cartography
- Elements of a Map
- Classification of maps
- Representation of map scales; Plain Scale and Comparative Scale

Unit 2: Map Projections (Theory: 15 hours)

- Geographic Coordinate System: Latitude and Longitude, Datum
- Concept and Choice of Map Projections
- Classification of Map Projections
- Properties, Merits and Demerits of Zenithal, Polar Stereographic, Conical with two standard parallel and Mercator's Projection.

Unit -3: Thematic Mapping and Data Representation Techniques (Practical- Lab Based: 30 hours)

- Introduction to Thematic Mapping
- Types of Diagrams: Line, Bar, Pie
- Isopleth Maps: Properties, Uses and Limitations
- Choropleth and Dot Methods: Properties, Merits and Demerits

Unit-4: Introduction to Statistical Methods in Geography (Practical- Lab Based: 30 hours)

- Significance of statistical methods in Geography
- Tabulation and Frequency Distribution Table
- Measures of Central Tendency: Arithmetic Mean, Median, and Mode
- Measures of Dispersion: Standard Deviation and Variance

Essential Readings:

- Anson, R., & Ormelling, F. J. (1994). *International Cartographic Association: Basic cartography Vol.* Pregmen Press.
- Hammond, P., & McCullagh, P. S. (1978). *Quantitative techniques in geography: An introduction.* Oxford University Press.
- King, L. S. (1969). *Statistical analysis in geography.* Prentice-Hall.
- Kraak, M. J. (2010). *Cartography: Visualization of geospatial data* (3rd ed.). Pearson Education Ltd.
- Mahmood, A. (1977). *Statistical methods in geographical studies.* Concept Publishing.
- Misra, R. P. (2014). *Fundamentals of cartography* (2nd rev. & enl. ed.). Concept Publishing.
- Monkhouse, F. J., & Wilkinson, H. R. (1973). *Maps and diagrams.* Methuen.
- Rhind, D. W., & Taylor, D. R. F. (Eds.). (1989). *Cartography: Past, present and future.* Elsevier, International Cartographic Association.
- Robinson, A. H. (2009). *Elements of cartography.* John Wiley & Sons.
- Sarkar, A. (2015). *Practical geography: A systematic approach.* Orient Black Swan Private Ltd.
- Singh, G. (1998). *Map work and practical geography* (4th ed.). Vikas Publishing House.

Suggested Readings:

- Sharma, J. P. (2010). *Prayogic bhugol* (Hindi). Rastogi Publishers.
- Singh, R. L., & Dutta, P. K. (2012). *Prayogatmak bhugol* (Hindi). Central Book Depot.
- Singh, R. L., & Singh, R. P. B. (1991). *Prayogtmak bhugol ke mool tatva* (Hindi). Kalyani Publishers.
- Singh, R. L., & Singh, R. P. B. (1999). *Elements of practical geography.* Kalyani Publisher.

DEPARTMENT OF GEOGRAPHY

SEMESTER VIII

Category II

**Geography Courses for Undergraduate Programme of study with Geography as one of
the Core Disciplines**

(B.A. Programmes with Geography as Major discipline)

DSC-14 A

DISCIPLINE SPECIFIC CORE COURSE
INTRODUCTION TO GEOSPATIAL TECHNOLOGIES (PRACTICAL)
(DSC 14 A)

Course title & Cod	Credits	Credit distribution			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
Introduction to Geospatial Technology (PRACTICAL) DSC14A	4	2	0	2	Passed Class 12th	NIL

Learning Objectives

The learning objectives of this course are as follows:

- In this Course, the students will get a basic understanding of the fundamentals of Remote Sensing, its definition, platforms, sensors, and resolution.
- Students will gain knowledge about both spatial and non-spatial data, data structures and GIS data analysis.
- Students will gain hands on experience in determining location-specific data using GPS.
- Students will learn the fundamental steps in change detection analysis and the application of Remote Sensing and GIS to the geographical study of Land Use Land cover, Natural Resource Management, Urban Studies and Disaster Management.

Learning Outcomes

Through this course, the students would gain an understanding of Geospatial Technologies, and when completed, they would be able:

- To comprehend concepts related to Remote sensing, GIS and GPS.
- To develop a basic understanding of the metadata of the satellite data and have a hands-on experience with different steps of its visual interpretation.
- To understand GPS technology and its importance in geographical studies.
- To learn to apply basic GIS operations/skills to detect both spatial and temporal changes in land use/cover, natural resources management, urban studies, and disaster management.

Course Outline

Unit I: FUNDAMENTALS OF REMOTE SENSING (Theory: 15 hours)

- Definition, Stages of Remote Sensing
- Types of Remote Sensing Platforms
- Sensors (LANDSAT and IRS)
- Resolution: Spectral, Spatial, Temporal, and Radiometric Resolution.

UNIT 2: GEOGRAPHICAL INFORMATION SYSTEM (GIS) AND GLOBAL POSITIONING SYSTEM (Theory: 15 hours)

- Definition and Components of GIS, Overview of GIS software
- Types of Data: Spatial and Non -Spatial Data, Types of Data Structure: Raster and Vector
- Fundamentals of GPS, Segments of GPS
- Global Navigation Satellite Systems (NavIC, NAVSTAR)
- GPS technology in Geographical studies

UNIT 3: SPATIAL DATA INPUT AND EDITING (Practical- Lab Based: 30 hours)

- Spatial Data Sources and Downloading
- Visual Interpretation and Metadata analysis of Satellite Image
- GIS inputs: Georeferencing and Digitization
- GPS based determination of Way points and Tracking routes

UNIT 4: APPLICATION OF REMOTE SENSING AND GIS (Practical- Lab Based: 30 hours)

- Land Use and Land Cover mapping
- Urban Sprawl analysis
- Mapping for Disaster Management (floods and landslides)

References:

- Campbell, J. C., and Wynne, R. H. (2022) Introduction to Remote Sensing, 5th ed. The Guilford Press. New York 622p.
- Jenson, J.R. (2000). Remote Sensing of the Environment – An Earth Resource Perspective, Prentice Hall Inc.
- Lillisand, T. M. and Keifer, R. W. (2011)). Remote Sensing and Image Interpretation',3rd Edition John Willey and Sons, New York.
- Sabins, F.F. (2007) Remote Sensing: Principles and Interpretation, 3rd Edition, Waveland Pr, Inc ,ISBN-13-978-1577665076
- Burrough, P.A., McDonnell, R.A. and Lloyd, D. McDonnell (2016). Principles of Geographical Information Systems, UK: Oxford University Press.
- DeMers M. N., 2000: Fundamentals of Geographic Information Systems, NJ, USA: John Wiley & Sons.
- Nag, P. (2008). Introduction to GIS. New Delhi, India: Concept.
- Sarkar, A. (2015) Practical geography: A systematic approach. New Delhi, India: Orient Black Swan Private Ltd.

**DISCIPLINE SPECIFIC ELECTIVE COURSE - B.A.
MULTIDISCIPLINARY– REGIONAL PLANNING AND
DEVELOPMENT (DSE 19 A)**

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
REGIONAL PLANNING AND DEVELOPMENT (DSE 19A)	4	3	1	0	Class 12th	NIL

NOTE: This Course is only to be offered to BA Programme students.

Learning Objectives:

- Understanding the basic concepts related to regional planning and development
- Detailed analysis about the different types of regions and their planning processes
- This course aims to equip students with hands-on skills and techniques for analyzing regional development patterns and planning strategies.

Learning Outcomes:

- The course aims to provide an in depth understanding about types of regions at different scales
- It will provide thorough understanding about development dynamics and concepts
- It will give an in-depth knowledge about tracing the region-capes

Course Outline

Unit 1: Introduction to Region, Development and planning (Theory: 10 hours)

- Definition and concept of a region
- Types and classification of regions
- Concept of development
- Concept of Regional planning

Unit II: Dimensions and Measurement of Development (Theory: 12 hours)

- Economic Growth vs Development; Efficiency-Equity Debate
- Measuring Development: Dimensions and Indicators
- Physical Quality of Life Index and Human Development Index
- Concept of Underdevelopment; Economic Development and Inequality

Unit III: Theories and Models of Regional Planning and Development (Theory : 12 hours)

- Growth Pole Theory (Perroux)

- Core-Periphery Model (Friedmann and Hirschman)
- Myrdal's Cumulative Causation Theory
- Rostow's Stages of Growth

Unit IV: Regional Disparities (Theory: 11 hours)

- Concept of Regional Disparities
- Causes and Consequences of Regional Disparities
- Strategies for balanced Regional Development
- Sustainable Regional Development and Inclusive Plan

Essential Readings:

1. Bhargava, G. 2001. Development of India's Urban, Rural, and Regional Planning in 21st Century: Policy Perspective, Gyan Publishing House.
2. Chand, M., Puri, V.K. 2000. Regional Planning In India, Allied Publishers Ltd. Chandana,
3. Chandna, R. C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers., New Delhi.
4. Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
5. Cowen, M.P. and Shenton, R.W. (1996): Doctrines of Development, Routledge, London.
6. Doyle, T. and McEachern, D. (1998): Environment and Politics. Routledge, London.
7. Friedmann, J. (1992): Empowerment: The Politics of Alternative Development. Blackwell, Cambridge MA and Oxford.
8. Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
9. Gore, C. 2011. Regions in Question: Space, Development Theory, and Regional Policy, Routledge.
10. Gregory, D., Johnston, R., Pratt, G., Watts., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
11. Hall, P., Tewdwr-Jones, M. 2010. Urban and Regional Planning, Routledge.
12. Hettner, B., Inotai, A. and Sunkel, O. (eds.) (1999 – 2000): Studies in the New Regionalism. Vol. I-V. Macmillan Press, London.
13. Higgins, B., Savoie, D.J. 2017. Regional Development: Theories and Their Application, Routledge.
14. Isard, W. (1960): Methods of Regional Analysis. MIT Press, Cambridge, MA.
15. Leys, C. (1996): The Rise and Fall of Development Theory. Indian University Press, Bloomington, and James Curry, Oxford.
16. Sen, A. (2000): Development as freedom. Development in Practice-Oxford-, 10(2), 258-258.

Suggested Readings:

1. Mahesh Chand and Puri V K (2011), Regional Planning in India, Allied Publishers Private Limited, New Delhi.
2. Misra, R. P. (ed.) (1992): Regional Planning: Concepts, Techniques, Policies and Case Studies. 2nd edition. Concept Publishing Company., New Delhi.

3. Misra, R.P. and Natraj, V.K. (1978): Regional Planning and National Development. Vikas, New Delhi.
4. Nath, V. 2009. Regional Development and Planning in India, Concept Publishing Company.
5. Sundaram K V 1997, Decentralised Multi level Planning – Principles and Practice, Concept Publishing Company, New Delhi
6. Kuklinski, A. R. (1972): Growth Poles and Growth Centres in Regional Planning. Mouton and Co., Paris.
7. Kuklinski, A.R. (ed.) (1975): Regional Development and Planning: International Perspective, Sijthoff-Leydor.
8. Friedmann, J. and Alonso, W. (ed.) (1973): Regional Development and Planning. The MIT Press, Mass.