FIRST-YEAR OF MASTER OF ARTS
MAJOR GEOGRAPHY REVISED SYLLABUS
ACCORDING TO CBCS NEP2020

COURSE TITLE: TOOLS AND TECHNIQUES IN SPATIAL ANALYSIS
SEMESTER-II, W.E.F. 2023-2024

RECOMMENDED BY THE BOARD OF STUDIES IN GEOGRAPHY
AND
APPROVED BY THE ACADEMIC COUNCIL

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No:03

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Master of Arts
Name of the Department	:	Geography
Name of the Class	:	First Year
Semester	:	Second
No. of Credits	:	02
Title of the Course	:	Tools and Techniques in Spatial Analysis-I
Course Code	:	A513GEP
Name of the Vertical in adherence to NEP 2020	:	Major
Eligibility for Admission	:	Any Graduate in Geography
Passing Marks	:	40%
Mode of Assessment	:	Summative
Level	:	PG
Pattern of Marks Distribution for TE and CIA	:	NA
Status	:	NEP-CBCS
To be implemented from the Academic Year	:	2023-2024
Ordinances/Regulations(if any)		

Syllabus for First Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER II **Paper No.–13**

Course Title: Tools and Techniques in Spatial Analysis **No. of Credits - 02**

Type of Vertical: Major Elective **COURSE CODE:** A513GEP

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Remember measures of central tendency
CLO-02	Understand	Understand the fundamentals of data analysis
CLO-03	Apply	Apply statistical Techniques
CLO-04	Analyse	Quantitative and Qualitative Data
CLO-05	Evaluate	
CLO-06	Create	

Syllabus for First Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER II **Paper No.–13**

Course Title: Tools and Techniques in Spatial Analysis **No. of Credits - 02**

Type of Vertical: Major Elective **COURSE CODE:** A513GEP

Module No.	Content	Credits	No. of Lectures
1	**Statistical Techniques (24 hours)** **1.1 Measures of Central Tendency** a. Measures of central tendency: mean center, weighted mean center, median center b. Z score – different applications and interpretations. **1.2. Network Analysis:** a. Topological graphs -Connectivity- Calculations of Alpha, beta and gamma indices. b. Mapping of relative accessibility and connectivity – Matrices- point of minimum aggregate travel distance	01	30
2	**Nature and application of spatial data: (20 hours)** 1. Data types – qualitative and quantitative 2. **S**patial and non-spatial data 3. Scales of measurement of data: nominal, ordinal, interval and ratio – symbolization and representation – interpretation and relationships. 4. Sources of data – Primary and secondary 5. Designing a questionnaire and E- questionnaire 6. Symbolisation, Preparation of matrix 7. Diagrammatic Representation. 8. Compilation of data 9. Computation of data	01	30

Required Previous Knowledge

No previous Knowledge is necessary to learn the course.

Access to the Course

The course is available for all the students admitted for Master of Arts.

Methods of Assessment:

Vocational skill Courses, Skill Enhancement Courses and courses having laboratory sessions shall be assessed at the end of each semester.

Grading Scale

The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

References:

1. Robinson, A. H., and Others (1995): Elements of Cartography, VI Edition, John Wiley & Sons, New York.
2. Anson, R. W., and Ormeling, F. J., (Ed.) (1993): Basic Cartography for Students and
1. Technicians, Vol.I, International Cartographic Association, and Elsevier Applied Science
2. Publishers, London.
3. Dickinson, G. C. (1977) Statistical Mapping and the Presentation of Statistics, Edward Arnold Ltd., London.
4. Monkhouse, F. J., and H. R. Wilkinson, (1971): Maps and Diagrams, Methuen & Co. Ltd., London.
5. Hodgkiss, A. G. (1970): Maps for Books and Theses, David and Charles Publishers Ltd., London.
6. Misra R. P. and A. Ramesh, (1969): Fundamentals of Cartography, Prasaranga, University of Mysore
7. Young, P. V., and Schmid, C. F. (1979): Scientific Social Surveys and Research, Prentice-Hall, New Delhi.
8. Mahmood Aslam(1977), Statistical Methods in Geographical Studies, Rajesh Publication, New Delhi.

9. Hammond, R. and McCullagh, P.S. (1974), Quantitative Techniques in Geography: An Introduction, Oxford University Press, London.
10. Yeates, M (1974), An Introduction to Quantitative Analysis in Human Geography, McGraw Hill Book Co., New York.
11. Cole, J. P., and King, C. A. M., (1968), Quantitative Geography, John Wiley and Sons, London.
12. Fotheringham, A.S., Brunsdon, C., Charlton, M,(2000) Quantitative Geography: Perspectives on Spatial Data Analysis, Sage Publication Ltd, London,
13. Baily, T.C., and Gatrell, A. C, (1995), Interactive Spatial Data Analysis, Prentice-Hall, London
14. Griffith, D. A., Layne, L.J.,(2002) A Casebook for Spatial Statistical Data Analysis: A Compilation of Analyses of Different Thematic Data Sets, Amazon.com
15. Wilcox, P.R. (2003), Applying Contemporary Statistical Techniques, Academic Press, Amsterdam
16. Crang M. and Cook, I. 2007, Doing Ethnographies, Sage.