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

COURSE TITLE: INTRODUCTION TO REMOTE SENSING
SEMESTER- I , 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. TatyasahebAthalye 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	:	First
No. of Credits	:	02
Title of the Course	:	Introduction to Remote Sensing
Course Code	:	A507GET
Name of the Vertical in adherence to NEP 2020	:	Major Elective
Eligibility for Admission	:	UG Degree in Geography
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	PG
Pattern of Marks Distribution for TE and CIA	:	60:40
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-I **Paper No.**–VII

Course Title: Introduction to Remote Sensing **No. of Credits -** 02

Type of Vertical: Major Elective **COURSE CODE:** A507GET

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 the fundamentals of Remote Sensing
CLO-02	Understand	Understand the principles of Remote Sensing
CLO-03	Apply	
CLO-04	Analyse	Analyse Spectral Signatures, EMR, orbits in Remote Sensing
CLO-05	Evaluate	Evaluate the Spectral signature and Image Resolutions in Remote Sensing.
CLO-06	Create	

Syllabus for First Year of Master of Arts in Geography

(With effect from the academic year 2023-2024)

SEMESTER-I **Paper No.–**VII

Course Title: Introduction to Remote Sensing **No. of Credits -** 02

Type of Vertical: Major Elective **COURSE CODE:** A507GET

Module No.	Content	Credits	No. of Lectures
1	**Module I - Introduction & Principles of Remote Sensing** o Fundamentals of Remote Sensing: Definition and Concept, Process of Remote Sensing, Development of remote sensing – Global and Indian o Electromagnetic Spectrum: Definition and Concept, interactions with atmosphere and earth's surface, Atmospheric window, Black body o Spectral Reflectance Curve: Concept, curves for land, water bodies/oceans, vegetation In Optical, IR, Thermal and Microwave bands o Atmospheric window and Blackbody, Spectral signature - Interaction with Soil, Water andVegetation o Applications of optical, thermal & microwave remote sensing.	01	15
2	**Module II Satellite Remote Sensing** o Satellite: types and their characteristics; o Types of Sensors o Orbital and sensor characteristics of major earth resource satellites: LANDSAT, SPOT, IRS, Sentinel & Quick Bird o Types of remote sensing; Types of Resolution in remote sensing o Remote Sensing Scenario in Indian Context	01	15

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:

The assessment pattern would be 60:40, 60% for Semester End Examination (SEE) and 40 % for Continuous Internal Assessment (CIA). The structure of the SEE and CIA would be as

recommended by the Board of Studies and approved by the Board of Examination and the Academic Council of the college.

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.

Reference Books:

1. Agrawal, N.K.(2006), Essentials of GPS (Second Edition), Book Selection Centre, Hyderabad
2. American Society of Photogrammetry (1983): Manual of Remote Sensing, ASP Palis Church, V.A.
3. Barrett, E.G. and Curtis, L.F. (1992): Fundamentals of Remote Sensing in Air Photo-interpretation, McMillan, New York. 7.
4. Bernhardsen, Tor (2002): Geographical Information Systems: An Introduction, Third Edition, John Wiley & Sons, Inc., New York.
5. Burrough, Peter A, and McDonnell, R.A. (1998): Principles of Geographical Information Systems, Oxford University Press, Mumbai.
6. Campbell. J. (1989): Introduction to Remote Sensing, Guilford, New York.
7. Clarke, Keith C. (1998): Getting Started with Geographic Information Systems, Prentice-Hall Series in Google. Info. Science, Prentice-Hall, Inc. N.J.
8. Curran, Paul, J, (1988): Principles of Remote Sensing, Longman, London.
9. Heywood, I.et al (2002): An Introduction to Geological Systems, Pearson Education Limited, New Delhi.
10. Iliffe, J.C (2006), Datums and Map Projections for Remote Sensing, GIS, and Surveying, Whittles Publishing, New York.
11. Jonson. R. J. (2003): Remote Sensing of the Environment-An Earth Resources Perspective, Pearson Education Series in Geographical Information Science, Keith C. Clarke (Series editor) Pearson Educators Private Limited. (Singapore), New Delhi.
12. Joseph, G. (2009): Fundamentals of Remote Sensing, Universities Press (India) Pvt. Ltd., Hyderabad.
13. Lillesand, Thomapson and Relph Kiffer (1994). Remote Sensing and Image Interpretations, John Wiley and Sons, Inc., New York.
14. Parker, R, N. (2008), GIS and Spatial Analysis for the Social Sciences, Routledge, New York.
15. Paul Longley (2005), Geographic Information Systems and Science, John Wiley & Sons.

16. Pickles, John (2006), The Social Implications of Geographic Information Systems, Rawat Publications, Jaipur.
17. Star, Jeffrey and John Estes (1996), Geographical Information Systems: An Introduction, Prentice-Hall, inc., N.J.
18. Shekar, S, and Chawla, S, (2009), Spatial Databases: A Tour, Pearson Education, Delhi.
19. Tempfli, T. K., Kerle, N., Huurememan, G.C., and Janssen, L.L.F (2009), Principles of Remote Sensing, ITC, Netherlands.