

Programme/Class B.A/B.sc	B.A/B.sc. FIRST	SEMESTER: I and II
SUBJECT : GEOGRAPHY		
COURSE CODE:	COURSE TITLE :Remote Sensing and GIS Applications	
Course outcome: The course is designed to provide comprehensive knowledge to the students regarding Remote sensing and GIS with the fundamentals of geospatial tools and technologies.		

Credits: 4	MINOR ELECTIVE	
Max. Marks: 25+50+25	Min. Passing Marks:	
Total No. of Lectures-Tutorials- Practicals (in hours per week): L-T- P 3-0-2		
Unit	Topics	Lectures
I	Remote Sensing and GIS: Definition and Components, Development, Platforms and Types.	15
II	Aerial Photography: Principles, Types and Geometry of Aerial Photograph;	15
III	GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure Image Processing (Digital and Manual) and Data Analysis, Geo-Referencing; Editing and Output; Overlays.	15
IV	Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring.	15



Practical work: A project file consisting of exercises will be done from aerial photos (scale, orientation and interpretation) and another exercise on using any GIS Software on above mentioned themes.

• This course can be opted as a minor elective paper by the students of the following subjects

open to all

• Course prerequisites: To study this course a students must have 10+2

Suggested Continuous Evaluation Methods:	
A. Internal Assessment:	Marks
1. Class interaction & Workshops.	10
2. Seminar & Group discussion.	5
3. Quiz.	5
4. Assignment.	5
5. Total	25
B. External Assessment	50 Marks
C. Practical Exam	25 Marks

Reading List:

1. Campbell J. B., 2007: Introduction to Remote Sensing, Guildford Press.
2. Jensen J. R., 2004: Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall.
3. Joseph, G. 2005: Fundamentals of Remote Sensing United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: Remote Sensing and Image Interpretation, Wiley. (Wiley Student Edition).

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5. Nag P. and Kudra, M., 1998: Digital Remote Sensing, Concept, New Delhi.
6. Rees W. G., 2001: Physical Principles of Remote Sensing, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: Space-informatics for Sustainable Development, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: Elements of Photogrammetry: With Applications in GIS, McGrawHill.
9. Sarkar, A. (2015) Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
10. Chauniyal, D.D. (2010) Sudur Samvedan evam Bhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad.

Shaurabh



