Lecture Plan

Name of the college: Government College of Arts, science and Commerce Sanquelim Goa

Name of Faculty: Dr. Arati Panshekar	**Subject:** Geography	
Paper code and title: GOS-142 Digital Cartography and Map Design	**Program: BSC**	**Division:**
Academic year: 2025-26	**Semester: II**	**Total Lectures: 1**

Course Objectives:

1. Introduce students to the concept of remote sensing, its history, and development.
2. Explore various satellite data products available from platforms like BHUVAN and USGS Earth Explorer.
3. Introduce image interpretations, including the concept of false color composite (FCC) and true color composite (TCC), and the elements involved in image interpretation.
4. Introduce digital image processing techniques such as image enhancement, geometric corrections, atmospheric corrections, and band ratios.

Expected Course Outcome:

By the end of this course, students will be able to:

1. Understand the principles and concepts of remote sensing and its historical development.
2. Access and utilize satellite data products from platforms like BHUVAN and USGS Earth Explorer.
3. Interpret satellite images using concepts like false color composite (FCC) and true color composite (TCC), and understand the elements involved in image interpretation.
4. Manipulate and process satellite images through changing color combinations, layer stacking, layer separations, and image extractions.

Student Learning Outcome:

After completing this course, students will be able to:

Understand basic concepts of Remote Sensing and satellite data sources.

Interpret and digitally process satellite images using standard techniques.

Apply Remote Sensing in practical studies such as LULC, watershed, and urban analysis.

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
January	01-01-2026	01-01-2026	1	Introduction to Remote Sensing: Concept and Definition	Mind Mapping, Question bank	Classroom Teaching, Power Point Presentation	1. George Joseph: Fundamentals of Remote Sensing, Second Edition, Universities Press, Hyderabad 2. Jensen J. R.: Remote Sensing of the Environment: An Earth Resource Perspective, Pearson Education, Singapore. 3. Lillesand, Kiefer and Chipman: Remote sensing and Image Interpretation. 5 Ed. Wiley& sons. 4. Reddy Anji M.: Text Book of Remote Sensing and Geographical Information System, BS Publications, Hyderabad, AP 5. Rees, W. G.: Physical Principles of Remote Sensing, Second Edition, Cambridge University Press, UK. 6. Robinson A. H., Sale, R. D., Morrison, J. L., Muehrcke, P. C.: Elements of Cartography, John Wiley & Sons, New York.
	05-01-2026	10-01-2026	1	Historical Development of Remote Sensing			
	12-01-2026	17-01-2026	1	Evolution of Remote Sensing Technologies			
	19-01-2026	24-01-2026	1	Electromagnetic Radiation (EMR): Nature and Properties			
	26-01-2026	31-01-2026	1	Stages of Remote Sensing Process			
February	02-02-2026	07-02-2026	1	Interaction of EMR with the Atmosphere			
	09-02-2026	14-02-2026	1	Interaction of EMR with Earth's Surface			
	16-02-2026	21-02-2026	1	Laws of Radiation: Planck's Law			
	23-02-2026	28-02-2026	1	Laws of Radiation: Stefan–Boltzmann and Wien's Laws			
March	02-03-2026	07-03-2026	1	Concept of Resolution in Remote Sensing			
	09-03-2026	14-03-2026	1	Types of Resolution: Spatial, Spectral, Radiometric, Temporal			
	16-03-2026	21-03-2026	1	Satellite Orbits: Types and Characteristics			
	23-03-2026	28-03-2026	1	Revision			

*** Assessment Rubrics**

Component	Max Marks
ISA 1	5
ISA 2	5
Practical	-
Project	-
Semester End Exam	20