REMOTE SENSING TECHNIQUES
CREDIT 2
TOTAL MARKS 50
COURSE CODE:

Course Definition:

Remote sensing is part of a range of geospatial technologies making increasingly significant impacts across various fields including commerce, science, and public policy. These systems gather data by detecting energy emitted, reflected, or transmitted across the electromagnetic spectrum. Remote sensing is experiencing rapid growth globally due to its extensive capabilities in addressing numerous application areas with appropriate datasets.

Course Objectives:

- To understand the Fundamentals& Physics of Remote Sensing
- To understand the Remote Sensing Platforms and Sensors
- To acquire knowledge about the Digital Image Processing and Information Extraction from Satellite Images

UNIT	NAME	CONTENTS	L	T	P
1	**Fundamentals of Remote Sensing**	a) Concepts and scope of remote sensing; DefinitionsandAdvantages and limitations b) Remote Sensing Process c) Platforms and Sensors d) Elements of the visual image interpretation	**14**	**1**	
3	**Digital Image Processing**	a) Introduction: Definition of digital image, Sources of Data, Image Pre-processing b) Unsupervised Classification and Supervised Classification	**14**	**1**	
			28	**2**	

In-semester Examination 5 Marks, Internal Evaluation 5 Marks and End Semester 40 Marks

FUNDAMENTALS OF REMOTE SENSING

TEXT BOOKS:

1.Jensen, J.R., 2000. Remote sensing of the environment: An earth resource perspective, Prentice Hall, Upper saddle river, NJ,

2.Joseph, George, (2003), Fundamental of Remote Sensing, University Press (India) Pvt. Ltd, Orient Longman Pte. Ltd., Hyderabad, India

3.Lillesand, T.M. and Kieffer, R.W., 2003. Remote Sensing and Image Interpretation, 5thEdition., Wiley, New York
4.Panda, B. C., 2008. Remote Sensing: Principles and Applications, Viva Books Private Limited, India

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1.Avery,T.E.,andG.L.Berlin, Fundamental of remote sensing and airphoto interpretation,5thed, Macmillan, New York,1992
2.Barrett,E.C., and L.F.Curtis, Introduction to environmental remote sensing, 3rded, Chapman and Hall, New York,1992
3.Campbell J.B. (2002) Introduction to Remote Sensing, 3rd ed., The Guilford Press.
4.Canada Center for Remote Sensing, Remote Sensing Tutorial
5.Cracknelll, A.P., and L.W.B.Hayes, Introduction to remote sensing, Taylor and Francis, Washington, DC,1991
6.Curran, P.J. (1980) Multispectral remote sensing of vegetation amount, Progress in Physical Geography, 4:315
7.Curran, P.J. (1988) Principles of Remote Sensing, ELBS Edn. Longman Group UK Ltd.
8.Guha, P.K. (2003) Remote Sensing for the Beginner, Affiliated East-West Press Pvt. Ltd., New Delhi
9.Jensen J.R. (2005) Digital Image Processing: A Remote Sensing Perspective, 3rd ed., Prentice Hall.
10.Jensen J.R. (2007) Remote Sensing of the Environment: An Earth Resource Perspective, 2nd ed., Prentice Hall.
11.John, R. J., Introductory Digital Image Processing – A Remote Sensing Perspective, Prentice Hall Series
12.Muralikrishna V., Geographical Information Systems and Remote Sensing Applications, Allied Publishers Private Limited.
13.Nag P. and Kudrat M., Digital Remote Sensing, New Delhi, Concept Publishing.
14.Reeves, Robert G., "Manual of Remote Sensing, Vol. I, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia, USA
15.Richards J.A. and Jia X. (2006) Remote Sensing Digital Image Analysis: An Introduction, 4th ed., Springer