ANDHRA UNIVERSITY
TRANS-DISCIPLINARY RESEARCH HUB

REMOTE SENSING AND GIS

UNIT I

INTRODUCTION Definition of a map, types of maps, map reading, map scale, Basics ofmap projections. Definition, History of Remote Sensing.

UNIT II

FUNDAMENTALS OF REMOTE SENSING Components of Remote sensing, Electromagnetic Remote sensing process- Electromagnetic Spectrum and its characteristics. Laws governing energy interaction

UNIT III

EMR ENERGY INTERACTION WITH ATMOSPHERE AND EARTH SURFACE Atmospheric Scattering- Rayleigh's & Mie's theories and Atmospheric Windows.EMR

UNIT IV

GEOGRAPHIC INFORMATION SYSTEM (GIS) : Introduction, definition and terminology, GIS categories, Components of GIS Fundamental Operations of GIS, A theoretical framework for GIS. The Essential Elements of a GIS: An overview,

UNIT V

GIS DATA MANAGEMENT GIS data file management: Simple list, ordered sequential files, Indexed files. , Database models:Hierarchical database models Relational database models.

Textbooks:

Textbook of Remote Sensing and GIS by M. Anji Reddy Remote
Sensing and Image Interpretation by T. M. Lillesand and
R.W.Kiefer.Remote Sensing in Hydrology by E. T. Engman and R. J.Curney
Geographic information Systems - A Management Perspective by StanAronoffGeographic
Information Systems - David Martin.
Fundamentals of GIS by Michael N. Demers

ANDHRA UNIVERSITY
TRANS-DISCIPLINARY RESEARCH HUB

MODEL QUESTION PAPER

REMOTE SENSING AND GIS

Time: 3 Hrs **Max. Marks 100**

Answer any five questions. **5 x 20 = 100 Marks**

All questions carry equal marks.

1. a) Explain with neat diagram about the process of Remote Sensing
   b) Briefly explain about the different types of resolutions used in Remote Sensing.

2. a) Describe about the Visual Image Interpretation
   b). Explain in detail the spectral signatures of vegetation and soil.

3. a) Explain in detail about the digital image processing.
   b) What are the different types of remote sensing platforms? .

4. a) Explain the process of georeferencing data with sketches
   b) Explain in detail about the digital image processing.

5. a) Briefly explain about any four elements of visual image interpretation
   b) Explain about the Visual Image Interpretation.

6. a) Describe in detail about major advantages and limitations of remote sensing?
   b) Briefly explain about passive and active remote sensing.

7. a) Briefly explain about geo stationary satellite quoting an example from ISRO
   b) Explain the three ways in which a scale can be depicted on a map.

8. a) Briefly explain about passive and active remote sensing
   b) Briefly describe the various modes of data input methods in GIS.