

<b>4<sup>th</sup> Semester</b>	<b>REV4D001</b>	<b>Remote Sensing and Geographic Information System</b>	<b>L-T-P 3-0-0</b>	<b>3 CREDITS</b>
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**Module - I (07 Hrs)**

Introduction , Types , Application and importance of Remote Sensing; Physics of Remote Sensing; The Electromagnetic spectrum; Spectral Reflectance Curves; Spectral signatures; Resolution.

**Module - II (10 Hrs)**

Remote Sensing Platforms: Ground, airborne and satellite based platforms; Some important Remote Sensing Satellites. Sensors: Passive and Active Sensors; Major Remote Sensing Sensors; Satellite band designations and principal applications; Colour / False Colour; Aerial Photography/ Aerial Photo Interpretation.

**Module -III (10 Hrs)**

Digital Image Processing: Pixels and Digital Number; Digital Image Structure; Format of Remote Sensing Data; Image Processing functions: Image Restoration, Image Enhancement, Image Transformation, Image Classification and Analysis; Image interpretation strategies.

**Module - IV (09 Hrs)**

Geographic Information System: Introduction; Preparation of thematic map from remote sensing data; Co-ordinates systems; GIS components: Hardware, software and infrastructures; GIS data types: Data Input and Data Processing; DEM/ DTM generation.

**Module -V (09 Hrs)**

Integration of GIS and Remote Sensing – Application of Remote Sensing and GIS – Water resources – Urban Analysis – Watershed Management – Resources Information Systems. Spatial planning approach. Global Positioning System – an introduction.

**Books:**

- Remote Sensing and GIS - Anji Reddy M., The Book Syndicate, Hyderabad, 2000.
- Principles of Geographical Information Systems - P A Burrough and R. A. McDonnell, OUP, Oxford, 1998.
- Remote Sensing for Earth Resource- Rao, D.P., AEG Publication, Hyderabad, 1987.
- Geographic Information System- Kang Tsung Chang, Tata Mc Graw Hill, Publication Edition, 2002.