

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

85st IIRS Outreach Programme

on

“Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System”

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August 16- November 26, 2021

The Department of Electronics and Communication Engineering of Sree Vidyanikethan Engineering (A Nodal Centre) has coordinated an outreach programme conducted by Indian Institute of Remote Sensing, Dehradun during 16.08.2021 to 26.11.2021 on Basics of Remote Sensing, Geographical Information system and Global Navigation Satellite System. The target audience are the faculty and students of various disciplines of Sree Vidyanikethan Educational Trust, Tirupati.

The course is divided into 5 modules. Module 1 is conducted during 16.08.2021 to 10.09.2021 and covers Remote sensing & Digital Image Analysis. Module 2 is conducted during 13.09.2021 to 24.09.2021 and covers Global Navigation Satellite system. Module 3 is conducted during 27.09.2021 to 23.10.2021 and covers Geographical Information System. Module 4 is conducted during 25.10.2021 to 02.11.2021 and covers Basics of Geo Computation and Geoweb Services. Module 5 is conducted during 08.11.2021 to 26.11.2021 and covers RS & GIS Applications.

Following topics will be covered in this course

- Basic Principles of Remote Sensing
- Earth Observation Sensors and Platforms
- Spectral Signatures of Different Land cover Features and Visual Image interpretation
- Digital Image Processing: Basic Concepts Rectification and Registration
- RS and Image Interpretation Practical
- Image Enhancement techniques
- Image Classification Techniques
- Advanced Classifiers and Accuracy Assessment
- Thermal Remote Sensing
- Hyperspectral Remote Sensing
- Image Processing Hands-on Demo using QGIS
- Google Earth Engine API: Introduction and case studies

- Open Source Data and International Geoportals for Satellite data download
- Overview of Microwave Remote Sensing
- Overview of SAR Data Processing
- Overview of UAV Remote Sensing
- Overview of LIDAR Remote Sensing
- Introduction to GPS and GNSS
- GPS receivers, processing methods, errors and accuracy
- Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)
- Indian Regional Navigation Satellite System (IRNSS)
- Advance GNSS processing
- Geographic Phenomena, Concepts and examples
- Spatial Analysis (Vector & Raster)
- Map visualisation
- Overview of Big Data Analytics

Finally, the workshop ended with panel discussion with all the participants. Two participants have attended this programme.

Dr. V. V. Satyanarayana Tallapragada, Associate Professor, Department of ECE has coordinated this event under the guidance of Dr. N. Gireesh, Professor and Head, Department of Electronics and Communication Engineering.