KNOWLEDGE
For Training

1. Course Details:

Course Code : SEGM-001
Course Title : Geographic Information Systems (GIS -Esri)
Course Duration : 5 Days

2. Course Overview:

- A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data. The acronym GIS is sometimes used for geographic information science (GIS) to refer to the academic discipline that studies geographic information systems and is a large domain within the broader academic discipline of geoinformatics.

3. Learning Outcomes:

- Basic cartographic principles underlying GIS—namely, conceptualizations of the Earth's shape, map scale, projections and coordinate systems.
- Ways in which data are stored in a GIS—specifically, raster and vector data models.
- The role of relational databases in GIS, as well as their creation through normalization.
- Primary and secondary data capture techniques such as the Global Positioning System (GPS) and digitizing.
- Basic cartographic principles underlying the effective design of thematic maps including, among others, map elements, symbolization, typography and layout.
- Basic techniques for analyzing vector data—namely, non-topological functions such as attribute query and measurement, and topological functions such as reclassification, buffering and overlay analysis.

4. Course Contents:

- Introduction to GIS
- Installation and Required Packages
- Introduction to Shapely for Geometric Objects
- Intro to Pandas and GeoPandas
- Managing maps and Projections
- Geocoding and ArcGIS API
- Geocoding Point in Polygons with GeoPandas
- Spatial join
- Data Classification; pysal map classifier
- Overlay Analysis

- Aggregating spatial data
- Geometries simplifications
- Visualization with Bokeh
- Static and Interactive Maps
- Using GIS Applications
- ArcGIS API usage and processing toolbox
- Python in QGIS; Processing toolbox & graphical modeller
- Creating own processing toolbox;
- Network Analysis and OpenStreetMap
- Downloading and working with OpenStreetMap data
- Network analysis in Python; Networkx; Osmnx

5. Our Methodology:

- Make coaching and monitoring innovative and using modern
- Media training also using on the go training by using interactive means and focusing on
- The exercises, practical applications and real situations study.
- Live delivery method, instructor-led training.
- Experienced consultant, trainers, and professional.
- Qualified trainer with high-level experience

6. Attendance Reports:

- Send daily attendance reports to trainingdep
- Send full attendance report to training dep. by the end of thecourse
- Attend 100 % from the course days also providedaily
- Issue attendance certificate for participant who attend minimum 80% from the course duration

7. Pre/Post Reports:

- Pre- assessment before starting training.
- Post assessment after finish training
- Full report for the deferent between Pre-& Post assessment

8. Who Should Attend?

- All working in application fields with prior theoretical and practical knowledge of GIS.