



GOVERNMENT OF INDIA
GEOLOGICAL SURVEY OF INDIA TRAINING INSTITUTE
HYDERABAD



SCHEME: ITEC

PROPOSED YEAR: 2025-26

Course Name	Duration	Maximum Seats	Minimum Seats	Stream
Fundamentals of Geophysical Mapping and Geological Interpretation	12-02-2026 to 25-02-2026	20	10	Engineering and Technology

COURSE DETAILS

Course Name	Fundamentals of Geophysical Mapping and Geological Interpretation
Start Date	12-02-2026
End Date	25-02-2026
Aim & Objective	To enable Geoscientists to understand the Geophysical Mapping, survey objectives and draw meaningful Geological Interpretation.
Mode of Evaluation	Project Work and Presentation
Education Qualification	Graduate in any subject in Earth Science (Geology, Geophysics, Hydrogeology, Environmental Science, Geography, Surveying, etc.)
Work & Experience	5 Years
Target Group	Scientists, Surveyors, Teachers, Technicians, etc. dealing with Geoscientific Studies

COURSE OVERVIEW

The *Fundamentals of Geophysical Mapping and Geological Interpretation* course is designed to provide participants with a comprehensive understanding of key geophysical survey methods, including Gravity, Magnetic, and DGPS surveys. The course will cover the essential parameters measured in each type of survey, with an emphasis on data acquisition, processing, and interpretation. Through practical demonstrations and hands-on sessions, participants will gain experience with the instruments used in geophysical surveys as well as the software tools for data processing. Additionally, participants will learn to integrate various maps and geological data to enhance their interpretation skills. These surveys provide valuable insights that influence decisions in urban planning, agriculture, energy, and natural resource management.

COURSE CONTENT

- **Introduction:** Overview of different Geophysical Methods
- **Geophysical survey:** Basic concept of Gravity, Magnetic and DGPS Survey

- **Survey:** Field planning and design of Survey
- **Field visit:** Acquisition of Gravity, Magnetic and DGPS data
- **Data processing:** Preliminary processing using excel and then final processing in Geosoft software (Oasis Montaj)
- **Data visualization:** display of maps and data in map windows along with scale, colour legend bar, contours
- **Grid and Map Preparation:** Concept of interpolation and different Gridding Algorithms
- **Interpretation:** Integration of different datasets and Geological Interpretation.
- **Cultural/Heritage site visit:** Visit to scientific organizations and Cultural Heritage sites to give exposure to various type of scientific studies as well as culture and tradition of India.
- **Practical:** Practical on handling of instrument as well as hands on each processing method will be imparted.
- **Project work and Presentation:** Project work will be given to individual participants as per the theme of the training which will be evaluated during their project presentation.
