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CENTURION UNIVERSITY OF TECHNOLOGYAND MANAGEMENT

DEPARTMENT OF CIVIL ENGINEERING

TRAINING ON DGPS AND GPR

8th to 13th April 2022

Objectives:

- ✓ To learn the basic concept of DGPS surveying and its working principles.
- ✓ To have a clear understanding of the principles of surveying with a DGPS and GPR.
- ✓ To provide detailed information on the GPS signal, it's processing by the receiver, and the techniques by which GPS obtains position, velocity and time.
- ✓ To present current information on the status, plans, schedule and capabilities of GPS, as well as of other satellite-based systems with position velocity and time determination applications.
- ✓ The GPR is to make the participants familiar with advanced data processing and interpretation techniques to derive maximum amount of information from data collected.
- ✓ Thorough training will be provided on use of R-GPR software to create 3D volumes and depth slices. GPR-SIM training will enhance interpretation capabilities of users.

Day1 (8/04/2022): Ist Half

Introduction to GPS, GPS System Overview, Working principle of GPS, Satellite ranging and Position Calculation, GPS errors and their corrections, Differential Global Positioning System Basic Geodetic Aspects. On filed Demonsatrion.

Day-1(8/04/2022):2nd Half

Receiver set up, Configuration of the receiver, Configuration of the terminal, Satellite tracking, Localizations of WGS 84 Coordinates Different parameters setting and Data storing. On filed Demonsatrion.

Day-2(9/04/2022):

Reference Line, Longitudinal & Traverse Profiles, Surveying Using GPS, Static Surveys, Rapid Static Surveys, Kinematic Surveys, Real Time Kinematic Surveys, Processing of GPS survey data, Plotting of GPS survey data ,Establishing stations and TBMs with reference to Survey of India BM (Control Points).

Day-3 (10/04/2022):Ist Half

Stake out of the measured points and offsets, Self-survey mode (absolute positioning).

Static Surveys and rapid static survey and Kinematic and RTK surveys

Day-3 (10/04/2022):2nd Half

Post processing of surveyed data and exporting the data to AutoCAD/GIS

Topographic surveys using RTK mode and establishing control points using static mode

Day-4 (11/04/2022):

Introduction to Ground Penetrating Radar Method, Field Procedure and Approaches for GPR Surveys, Antenna selection, frequency v/s depth, Various Antenna Configurations in various applications, Data acquisition, data handling

Day-5 (12/04/2022):

Data Processing: High pass, low pass filters Time-depth conversion3D & time/ depth slice generation using R-GPR.

Day-6 (13/04/2022):

Utility locating GPR imaging field projects

Recourse Persons:

Dr.Prafulla Kumar Panda, Dr.Kamal Kumar Barik and Prof.K.C.Sethi