DIPLOMA IN SURVEYING

Second Semester

Paper 1

Subject: Linear Measurements & Errors

Knowledge about selection of tools and instruments based upon the work requirements.

Knowledge of different types of errors in the linier measurements, their causes and impact on project measurement

Knowledge to avoid errors in linier measurements

Information about various difficulties that may be faced during survey and procedure to overcome the same

Knowledge of different types of liner measurements and their

procedures Knowledge of different hand signals, their interpretations

and applications

Knowledge of entering data into field books for various types of liner measurements including symbols and representations

Selection of station points, ideal conditions for selection of station points

Knowledge of standard procedure for conducting liner measurements with total station

Knowledge of concept of as built drawings, procedure for conducting measurements, recording and plotting as built measurements.

Paper 2

Subject: Plane Table & Compass Traversing

Plane table and accessories

Advantages and limitations of plane table survey

Orientation and methods of orientation

Methods of plotting – Radiation, Intersection, Traversing, Resection method Two point and three point problems

Solution to two point problem by graphical method

Solution to three point problem Bessel's graphical method

Errors in plane table survey

Compass Traversing: Local attraction

Determination and corrections

Dependent and independent co-ordinates

Checks for closed traverse and determination of closing error and its direction Define the following

a. Whole circle bearing (WCB)
b. Quadratical Circle Bearing (QCB)
c. Angle of Dip
d. True Magnet

Difference between surveyor compass and prismatic compass

Paper 3

Subject: Standard Procedure of Levelling

Understanding the scope of the survey and deciding upon the station points and staff locations

Concept and principles of levelling, different types of levelling, their application

Selection of station points, staff measurement locations, ideal location for etc.

Computation of Reduced levels through rise and fall method and height of collimation method

Standard procedure for conducting levelling works

Importance of levelling in various sub sectors of the construction industry

Identification of errors, understanding their source and rectifying the same

Different causes of errors in the levelling works, their impact on the project

Paper 4

Subject: Slopes & Gradients

Procedure for laying slopes and gradients for

a. Roads
b. Bridges
c. Pipelines
d. canals etc

Errors in slope alignment and their implications, identification & rectifications Procedures for making entries in the field book and make necessary calculations

Subject: Survey Practical II

- Temporary adjustment of Total station
- Measurement of angle & coordinates and heights.
- Traversing using Total station.
- Download survey data and Plotting.