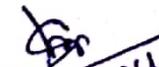


LESSON PLAN OF 4th SEMESTER(2019-22) CIVIL ENGINEERING

Discipline :- CIVIL ENGG	Semester:- 4th	Name of the Teaching Faculty:- SUBHASHREE SAHOO
Subject:- LAND SURVEY PRACTICE-1 (PR-1)	No of Days per Week Class Allotted :- 2	Semester From:- 19th April 2021 To:- 13th August 2021 No of Weeks:-17
Week	Class Day	Practical Topics
1 st	1 st	1.0 Linear Measurements, Chaining and Chain Surveying: 1.1 Testing and adjusting of a metric chain. 1.2 Measurement of distance between two points (more than 2 chain lengths apart) with chain including direct ranging.
	2 nd	1.3 Setting out different types of triangles, given the lengths of sides with chain and tape. 1.4 Measurement of distance between two points by chaining across a sloped ground using stepping method and a clinometers.
2 nd	1 st	1.5 Measurement of distance by chaining across a obstacles on the chain line i) a pond ii) a building iii) a stream/ river (in the event of non-availability of stream / river, a pond or lake may be taken, considering that chaining around the same is not possible.
	2 nd	1.6 Setting perpendicular offsets to various objects (at least 3) from a chain line using-(1) tape, (2) cross-staff, (3) optical square and comparing the accuracy of the 3 methods. 1.7 Setting oblique offsets to objects (at least 3) from a chain using tape.
3 rd	1 st	2.0 Angular Measurement and Compass Surveying: 2.1 Testing and adjustment of Prismatic compass and Surveyor's compass. 2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.
	2 nd	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles. 2.4 Setting out a closed traverse of 5 sides, using prismatic compass, given bearing of one line and included angles and lengths of sides.
4 th	1 st	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book. (5 to 6 students/groups)
	2 nd	3.0 Map Reading Cadastral Maps & Nomenclature: 3.1 Study of direction, Scale, Grid Reference and Grid Square 3.2 Study of Signs and Symbols
5 th	1 st	3.3 Cadastral Map Preparation Methodology 3.4 Unique identification number of parcel
	2 nd	3.5 Positions of existing Control Points and its types 3.6 Adjacent Boundaries and Features, Topology Creation and verification.
6 th	1 st	4.0 Plane Table Surveying: 4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.
	2 nd	4.2 Conducting Plane Table surveying in a given plot of area by traversing (At least a 5-sided traverse and locating the objects)
7 th	1 st	4.3 Plane table surveying by Resection method (two point & three point problem method)
	2 nd	5.0 Theodolite Traversing:

		5.1 Measurement of horizontal angles (3nos.) by repetition and reiteration method and compare two methods
8 th	1 st	5.2 Prolonging a given straight line with the help of a theodolite
	2 nd	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data
9 th	1 st	5.4 Plotting the traverse from exercise 4.1 and checking the error of closure
	2 nd	5.5 Setting out an open traverse with 5 sides and entering the field data
10 th	1 st	5.6 Plotting the traverse from exercise 4.3 and checking the error of closure
	2 nd	6.0 Levelling and Contouring: 6.1 Making temporary adjustments of Levels 6.2 Determining Reduced Levels of five given points taking staff readings with Levels.
11 th	1 st	6.3 Determining the difference of levels between two points (3 pairs of points / group) by taking staff readings form single set up of level, recording the readings in level book and application of Arithmetic check. (At least 3 change points must be covered)
	2 nd	6.4 Conduct Fly Levelling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by both height of collimation and rise & fall method and applying Arithmetic check. (At least 3 change points must be covered)
12 th	1 st	6.5 Conduct profile levelling along the given alignment for a road / canal for 150m length, taking L. S. at every 15m and C. S. at 1m & 3m apart on both sides at every 30m interval and recording the data in level book and applying arithmetical check.
	2 nd	6.6 Locating contour points in the given area by direct method / indirect method
13 th	1 st	6.7 Conducting block level survey in the given area
	2 nd	6.8 Plotting and drawing contour map of a given area by radial method
14 th	1 st	6.9 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making
	2 nd	7.0 Basics of Aerial Photography: 7.1 Film 7.2. Focal Length
15 th	1 st	7.3. Scale 7.4. Types of Aerial Photographs (Oblique, Straight)
	2 nd	8.0 Basics of Photogrammetry, DEM and Ortho Image generation: Photogrammetry: 8.1 Classification of Photogrammetry 8.2 Aerial Photogrammetry
16 th	1 st	8.3 Terrestrial Photogrammetry Process 8.4 Acquisition of Imagery using aerial and satellite platform
	2 nd	8.5 Control Survey 8.6 Geometric Distortion in Imagery
17 th	1 st	8.7 Application of Imagery and its support data 8.8 Orientation and Triangulation
	2 nd	8.9 Stereoscopic Measurement: X-parallax and Y-parallax 8.10 DTM/DEM Generation 8.11 Ortho Image Generation


CONCERNED FACULTY
G.P, PURI


ACADEMIC CO-ORDINATOR
G.P, PURI


PRINCIPAL
G.P, PURI