

Lesson Plan

BRANCH	CIVIL ENGG					
Subject Name	LAND SURVEYING-I			Subject Code		
Course Name	DIPLOMA	Semester	4th	ACADEMIC PERIOD	2022-23	
No. of Classes allotted per Week	4		Planned Classes Required to Complete the Subject		70	
Sl.No.	Topicstobecovered			No. of hours Red.	Module	Mode of Teaching
1	Surveying: Definition, Aims and objectives			1	1	Black Board Mode
2	Principles of survey-Plane surveying- GeodeticSurveying- Instrumentalsurveying			1	1	Black Board Mode
3	Precision and accuracy of measurements, instrumentsused formeasurement of distance,			1	1	Black Board Mode
4	Types of tapes and chains.			1	1	Black Board Mode
5	Errors and mistakes in linear measurement –classification, Sources of errors and remedies			1	1	Black Board Mode
6	Corrections to measured lengths due to-incorrect length,temperaturevariation, pull, sag,			1	1	Black Board Mode
7	numerical problem applying corrections			1	2	Black Board Mode
8	numerical problem applying corrections			1	2	Black Board Mode
9	CHAINING AND CHAIN SURVEYING : 2.1 Equipment and accessories for chaining			1	2	Black Board Mode
10	Ranging – Purpose, signaling, direct and indirect ranging,Line ranger – features and use, error due to incorrect ranging.			1	2	Black Board Mode
11	Methods of chaining –Chaining on flat ground, Chainingon sloping ground – stepping method, Clinometer-features and use, slope correction			1	2	Black Board Mode
12	Setting perpendicular with chain & tape,			1	2	Black Board Mode
13	Chaining across different types ofobstacles –			1	3	Black Board Mode
14	Numerical problems on chaining across obstacles			1	3	Black Board Mode
15	Purpose of chain surveying, Its Principles, concept of fieldbook			1	3	Black Board Mode

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16	Selection of survey stations, base line, tie lines, Check lines	1	3	Black Board Mode
17	Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square.	1	3	Black Board Mode
18	Errors in chain surveying – compensating and accumulative errors causes &	1	3	Black Board Mode
19	remedies, Precautions to be taken during chain surveying.	1	3	Black Board Mode
20	ANGULAR MEASUREMENT AND COMPAS SURVEYING :	1	4	Black Board Mode
21	3.1 Measurement of angles with chain,			
21	3.1 Measurement of angles tape & compass	1	4	Black Board Mode
22	Compass – Types, features, parts, merits & demerits, testing & adjustment of compass	1	4	Black Board Mode
23	Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings	1	4	Black Board Mode
24	Whole circle bearing, Quadrantal bearing, Reduced bearing, suitability of application	1	4	Black Board Mode
25	numerical problems on conversion of bearings	1	4	Black Board Mode
26	Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing	1	4	Black Board Mode
27	Numerical problems on computation of interior & exterior angles from bearings.	1	4	Black Board Mode
28	Effects of earth's magnetism – dip of needle	1	5	Black Board Mode
29	magnetic declination, variation in declination, numerical problems on application of correction for declination.	1	5	Black Board Mode
30	Errors in angle measurement with compass – sources & remedies.	1	5	Black Board Mode
31	Principles of traversing – open & closed traverse	1	5	Black Board Mode
32	Local attraction – causes, detection, errors, corrections	1	5	Black Board Mode
33	Numerical problems of application of correction due to local attraction.	1	5	Black Board Mode
34	Errors in compass surveying – sources & remedies	1	5	Black Board Mode
35	Plotting of traverse – check of closing error in closed & open traverse,	1	5	Black Board Mode
36	Bowditch's correction, Gales table	1	5	Black Board Mode
37	MAP READING CADASTRAL MAPS & NOMENCLATURE:	1	5	Black Board Mode

	4.1 Study of direction, Scale,			
38	Grid Reference and Grid Square Study of Signs and Symbols	1	5	Black Board Mode
39	Cadastral Map Preparation Methodology	1	5	Black Board Mode
40	Positions of existing Control Points and its types	1	5	Black Board Mode
41	Adjacent Boundaries and Features, Topology Creation and verification	1	5	Black Board Mode
42	PLANE TABLE SURVEYING : 5.1 Objectives, principles and use of plane table surveying	1	5	Black Board Mode
43	Instruments & accessories used in plane table surveying.	1	5	Black Board Mode
44	Methods of plane table surveying	1	5	Black Board Mode
45	Statements of TWO POINT and THREE POINT PROBLEM.	1	5	Black Board Mode
46	Errors in plane table surveying and their corrections, precautions in plane table surveying.	1	6	Black Board Mode
47	THEODOLITE SURVEYING AND TRAVERSING: Purpose and definition of theodolite surveying	1	6	Black Board Mode
48	Transit theodolite- Description of features, component parts	1	6	Black Board Mode
49	Concept of transiting –Measurement of horizontal and vertical angles.	1	6	
50	Measurement of magnetic bearings, deflection angle, direct angle	1	6	Black Board Mode
51	Errors in Theodolite observations.	1	6	Black Board Mode
52	Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method,	1	6	Black Board Mode
53	Checks for open and closed traverse.	1	6	Black Board Mode
54	Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths &	1	7	Black Board Mode
55	Local attraction – causes, detection, errors, corrections	1	7	Black Board Mode
56	Numerical problems of application of correction due to local attraction.	1	7	Black Board Mode
57	Errors in compass surveying – sources & remedies	1	7	Black Board Mode
58	LEVELLING AND CONTOURING : 7.1 Definition and Purpose and types of leveling– concepts of level surface,	1	7	Black Board Mode

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59	Horizontal surface, vertical surface, datum, R. L., B.M	1	7	Black Board Mode
60	Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis.	1	7	Black Board Mode
61	Revision	1		Black Board Mode
62	Revision	1		Black Board Mode
63	Revision	1		Black Board Mode
64	Doubt clearing	1		Black Board Mode

Signature of Faculty

Signature of HOD