

Detailed Teaching Plan

Lecture No.	Unit No	Topics to be covered	Planned Date	Execution Date	Remark
1	1	1.1.1 Introduction to surveying, Plane and Geodetic surveying , 1.1.2 Purpose of engineering surveys	12/9/24	12/9/24	
2		1.1.3 Principles of surveying , 1.2 CHAIN SURVEY : 1.2.1 Instrument used in chain survey:- Types of chain and tapes, Study of 20m and 30m chain, Chain, Tapes, Arrow, Ranging rod, Offset rod, Open cross staff, optical square, prism square	12/9/24	12/9/24	
3		1.2.2 Ranging: Direct/indirect/ reciprocal, offsets and recording in field book. 1.2.3 Use of Line Ranger	16/9/24	15/9/24	
4		Chaining on plane and sloping ground , 1.2.4 Obstacles in Chaining.	16/9/24	19/9/24	
5		1.2.5 Offsets:- Types- Perpendicular/Oblique Instruments used to take offsets.	19/9/24	21/9/24	
6		1.2.6 Chain Triangulation- Principal of Chain Triangulation, Survey Stations, Survey lines Arrangement of survey lines, conditions to be fulfilled by survey lines or survey stations, Recording field book: Single line and Double line booking , chain traversing,	19/9/24	21/9/24	
7		1.2.7 Errors in chain surveying and their corrections, 1.2.8 Symbols and signs to indicate ground features	21/9/24	23/9/24	
8		2.1 Traverse Survey – Traversing, Closed and Open Traverse, Name of instruments used for measurement of directions and angles , 2.2 Bearings and Angles – Bearing, Meridian. Types of meridian and bearing,	21/9/24	23/9/24	
9		Systems of bearing, Conversion of bearings from one system to other, Fore and Back Bearing, Calculation of angles from bearings and	23/9/24	26/9/24	
10		Calculation of angles from bearings and bearings from angles....Continue	23/9/24	26/9/24	

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11	2	2.3 Magnetic Compass – Magnetic Compass ,Prismatic Compass, Surveyor’s Compass. Temporary adjustment of prismatic compass and taking observation, Magnetic dip and declination.	26/9/24	30/9/24	
12		2.4 Local attraction - causes, detection, errors and corrections, problems on local attraction, magnetic declination and calculation of included angles in a compass traverse, Graphical adjustment of closing error.	26/9/24	30/9/24	
13		problems on local attraction, magnetic declination and calculation of included angles in a compass traverse, Graphical adjustment of closing error....Continue	30/9/24	07/10/24	
14	3	3.1 Levelling- Levelling ,Level surfaces,Level Line, Horizontal Plane, Horizontal Line, Vertical Line, Datum, Bench Marks, Reduced Level, Mean Sea Level.	30/9/24	07/10/24	
15		3.2 Levelling Instruments –Dumpy Level, , Tilting Level, AutoLevel, Digital Level Leveling Staff, Temporary adjustment of Dumpy Level.	7/10/24	17/10/24	
16		3.3 Terms used in leveling - Line of collimation, Axis of Telescope, Axis of bubble tube, Station, Height of instruments, Back sight, Fore sight, intermediate sight, Change point, Rise,Fall	7/10/24	17/10/24	
17		3.4 Classification of Levelling - Simple Levelling, Differential Levelling, Fly Levelling, Profile Levelling, Cross Sectioning	17/10/24	17/10/24	
18		3.5 Examples & methods of finding out the R. L. in Level Book by H.I. Methods and Rise & Fall Methods with necessary check.	17/10/24	21/10/24	
19		3.5 Examples & methods of finding out the R. L. in Level Book by H.I. Methods and Rise & Fall Methods with necessary check....Continue	21/10/24	21/10/24	
20		3.6 Correction for Curvature and refraction and related examples, Balancing of backsight and foresight.	21/10/24	26/10/24	
21		3.7 Errors in Levelling ,Degree of Precision	24/10/24	26/10/24	

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22	4	4.1 Contour , 4.2 Contour interval, horizontal equivalent .Uses of contours , 4.3 Charactersticts of Contouring	24/10/24	28/10/24	
23		4.4 Methods of contours	26/10/24	28/10/24	
24		4.5 Interpolation of contours	28/10/24	4/11/24	
25		4.6 Preparation of contour map.	4/11/24	4/11/24	
26		4.7 Uses of Contour Map- Drawing of Sections, Determination of intervisibilty between two points, Tracing of contour gradient and location of route,	4/11/24	03/11/24	
27		measurement of drainage areas ,calculation of capacity of reservoirs & related examples , 4.8 Use of Topo sheet	11/11/24	03/11/24	
28	5	5.1.1 Principles of plane table surveying, Advantages and disadvantages of plane table survey , 5.1.2 Plane table and its accessories,	11/11/24	25/11/24	
29		5.1.3 Setting of a plane table: (a) Centering , (b) Levelling , (c) Orientation , Methods of plane table survey : Radiation Method	14/11/24	25/11/24	
30		Methods of plane table survey : Intersection , Traversing , Resection (Three Point Problem)and precautions to control them.	14/11/24	26/11/24	
31		Methods of plane table survey : Resection (Two Point Problem). 5.1.5 Errors in plane table survey and precautions to control them.	18/11/24	27/11/24	
32		5.2 Minor instruments:- Construction and use of Hand Level, Abney Level. Box Sextant , Pentagraph and Ceylon Ghat Tracer , Planimeter	18/11/24	27/11/24	

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