

Government Polytechnic Arwal

(Department of Civil Engineering)

Lecture Plan

Name of the Faculty		ADARSH SINHA			
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Semester/Branch		3 rd / Civil Engg.			
Subject Name(Subject Code)		Surveying (1615302)			
Week/Hrs		3 hrs/week			
Theory					
Units	Week	Lecture Day	Topics	Methods of Teaching	Remarks
1 Types of Survey	1	1	Definition of surveying, Objective of surveying, Principle of surveying	PPT/Video/Hand written notes(PDF)	
		2	Uses of surveying, classification of surveying	PPT/Video/Hand written notes(PDF)	
		3	Primary classification - plain, Geodetic	PPT/Video/Hand written notes(PDF)	
	2	4	Secondary - Based on Instruments, Methods, Object, Nature of field	PPT/Video/Hand written notes(PDF)	
		5	ASSIGNMENT 1 AND QUIZ 1 FOR UNIT 1	PDF/Google form	
2 Chain & Cross staff survey	2	6	Principle of chain survey, Study and uses of Instruments for linear measurements- chain, Tape, Ranging rod.	PPT/Video/Hand written notes(PDF)	
		3	7	Study and uses of Instruments - Arrows, Pegs, Cross Staff, Optical square, Line Ranger.	PPT/Video/Hand written notes(PDF)
	8		Ranging - Direct and Indirect ranging Chaining - Plain and Sloping grounds.	PPT/Video/Hand written notes(PDF)	
	9		Chain Triangulation - Survey Station and their selections, Survey lines, Check lines, Tie lines, base line .	PPT/Video/Hand written notes(PDF)	

3 Compass Survey	4	10	Taking of offsets, Long and short offset , Degree of offsets.	PPT/Video/Hand written notes(PDF)	
		11	Chain & cross staff for finding area of a field (Numerical Problems)	PPT/Video/Hand written notes(PDF)	
		12	Errors in Chain Surveying & applying correction for chain & Tape .(Numerical problems), Conventional signs related to survey	PPT/Video/Hand written notes(PDF)	
	5	13	ASSIGNMENT 2 AND QUIZ 2 FOR UNIT 2	PDF/Google form	
		14	Principal of Compass Survey,Bearing of lines,	PPT/Video/Hand written notes(PDF)	
		15	Meridian - True, Magnetic, and Arbitrary.	PPT/Video/Hand written notes(PDF)	
	6	16	Bearing - FORE BEARING, Back bearing ,Whole circle bearing ,Quadrantal Bearing system and Reduced Bearing	PPT/Video/Hand written notes(PDF)	
		17	Conversion of Bearings,Finding included angle from bearings.	PPT/Video/Hand written notes(PDF)	
		18	Prismatic compass- Component ,Construction and uses.	PPT/Video/Hand written notes(PDF)	
	7	19	Local attraction , causes	PPT/Video/Hand written notes(PDF)	
		20	Precaution to be taken to avoid and correction of bearings affected due to local attraction	PPT/Video/Hand written notes(PDF)	
		21	Calculation of included angles.	PPT/Video/Hand written notes(PDF)	
	8	22	Traversing - Open Traverse,Closed Traverse,	PPT/Video/Hand written notes(PDF)	
23		Check on open and closed Traverse, Graphical adjustment for closing error.	PPT/Video/Hand written notes(PDF)		
24		Numerical Problems on calculation of bearings,Angles and local attraction	PPT/Video/Hand written notes(PDF)		
9	25	ASSIGNMENT 3 AND QUIZ 3 FOR UNIT 3	PDF/Google form		
	26	Definitions – Level surface, Level line, horizontal line, Vertical line, Datum surface , Reduced level, Bench mark and its types .	PPT/Video/Hand written notes(PDF)		
	27	Dumpy level - Components ,Construction	PPT/Video/Hand written notes(PDF)		
4 Levelling					

	10	28	Line of sight , line of Collimation, bubble tube axis,	PPT/Video/Hand written notes(PDF)	
		29	Levelling staff- Telescopic and folding type.	PPT/Video/Hand written notes(PDF)	
		30	Foresight, Backsight,Intermediate sight, Change point , Height of Collimation.	PPT/Video/Hand written notes(PDF)	
	11	31	Fundamental Axes and their Relationship.	PPT/Video/Hand written notes(PDF)	
		32	Recording in level book, Temporary adjustments of Dumpy level.	PPT/Video/Hand written notes(PDF)	
		33	Method of reduction of levels- Height of instrument method and numerical	PPT/Video/Hand written notes(PDF)	
	12	34	Rise and Fall method , Arithmetical Checks, numerical problems	PPT/Video/Hand written notes(PDF)	
		35	Computation of missing reading, Classification of levelling-Simple & Differential.	PPT/Video/Hand written notes(PDF)	
		36	Classification of levelling- Profile , Cross sectional , Fly and check levelling.	PPT/Video/Hand written notes(PDF)	
	13	37	Study and uses of Tilting level	PPT/Video/Hand written notes(PDF)	
		38	Study and uses of Auto level.	PPT/Video/Hand written notes(PDF)	
		39	Sources and errors in levelling.	PPT/Video/Hand written notes(PDF)	
	14	40	Precaution and Difficulties faced in Levelling	PPT/Video/Hand written notes(PDF)	
		41	ASSIGNMENT 4 AND QUIZ 4 FOR UNIT 4	PDF/Google form	
5 Contouring	15	42	Definition of Contour, Contour Interval, Horizontal Equivalent , characteristics of contours	PPT/Video/Hand written notes(PDF)	
		43	Method of locating contours,Interpolation of Contours.	PPT/Video/Hand written notes(PDF)	
		44	Establishing Grade Contours,Uses of Contour Maps, Interpretation of typical contour sheets	PPT/Video/Hand written notes(PDF)	

6 Area and Volume Measurements		45	.ASSIGNMENT 5 AND QUIZ 5 FOR UNIT 5	PDF/Google form	
	16	46	Construction and use of polar planimeter for measurement of area and simple numerical problems.	PPT/Video/Hand written notes(PDF)	
		47	Study and uses of digital planimeter , Concept of computation of volume by Trapezoidal and Prismoidal Formulae(No numerical problems)	PPT/Video/Hand written notes(PDF)	
		48	ASSIGNMENT 6 AND QUIZ 6 FOR UNIT 6	PDF/Google form	