

## Lesson Plan

Name of

the :

Mr.Mahender

Faculty

Discipline :

Civil Engineering

Semester :

4th

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Subject

SURVEYING – II

2

4

Lesson

Plan

16 Weeks (from Feb.2024 to June 2024)

Duration

Week	Lecture Day	Theory			
		Topic (including assignment / test)			
1 <sup>st</sup>	1st	<b>UNIT I</b> <b>Digital Theodolite and Tachometric surveying</b> <b>1.1 Concept/Difference of Transit Theodolite and Electronic Digital Theodolite</b> 1.2 Temporary adjustments of an Electronic Digital Theodolite, Concept of transiting, swinging, face left, face right and changing face.			
	2nd	1.3 Prolonging a line (forward and backward)			
	3rd	1.4 Traversing by included angles and deflection angle method			
2nd	4th	1.5 Plotting a traverse; concept of coordinate and solution of omitted measurements (onside affected) 1.6 Errors in theodolite survey and precautions taken to minimize them.			
	5th	1.7 Height of objects with and without accessible bases 1.8 Concept, general principles of stadia tachometry and methods of tachometry and (with numerical problems)			
3rd	6th	1.9 Instruments to be used in tachometry <b>UNIT II</b> <b>(Horizontal, Vertical and Transition Curve)</b> <b>Curves:</b> <b>2.1 Definition and types of horizontal curve</b> <b>**2.1.1 Elements of simple circular curve - Degree of the curve, radius of the curve, tangent length, point of intersection (Apex point), tangent point, length of curve, long chord deflection angle, Apex distance and Mid-ordinate. (With numerical problems)</b>			
	7th	2.2 Transition Curve: 2.2.1 Definition of transition curve 2.2.2 Requirements of transition curve			
4th	8th	2.2.3 Length of transition curve for roads; by cubic parabola 2.2.4 Need (centrifugal force and super elevation). 2.2.5 Calculation of offsets for a transition curve			
	9th	<b>Revision/Querries/Assignment-I</b>			
5th	10th	<b>Sessional Test -I</b>			
	11th	2.3 Definition and types of vertical curve 2.3.1 Types of vertical curves 2.3.2 Setting out of a vertical curve			
6th	12th	<b>UNIT III</b> <b>3.1 Distomat</b>			
	13th	3.2 GPS, DGPS and GIS applications and software used (introduction only)			
7th	14th	<b>Total Station (TS)</b>			
	15th	4.2 Uses of function keys, various parts of TS 4.3 Accessories used in TS survey 4.4 Applications of TS in various engineering area. 4.5 Temporary adjustments of TS			
8th	16th	<b>Revision/Querries/Assignment-II</b>			
	17th	<b>Sessional Test -II</b>			
9th	18th	Total station, Traversing, profile survey and contouring with TS topographic map also			
	19th	<b>UNIT V</b>			
10th	20th	5.2 Comparison between DGPS and TS			
	21th	5.3 Temporary adjustments of a DGPS			
11th	22th	5.4 How does DGPS work 5.5 Error in DGPS			
	23th	<b>**5.6 Periodic field visits to Survey of India and other government agencies.</b>			
12th	24th	<b>**5.6 Periodic field visits to Survey of India and other government agencies.</b>			
	25th	<b>**5.7 Layout of drain, canal, road with DGPS.</b>			
13th	26th	<b>**5.8 Demarcation of roads, plots, commercial spaces and agricultural land etc. with DGPS</b>			
	27th	<b>Revision/Querries/Assignment-III</b>			
14th	28th	<b>Sessional Test -III</b>			
	29th	<b>Revision/Querries</b>			
15th	30th	<b>Revision/Querries</b>			
	31th	<b>Revision/Querries</b>			
16th	32th	<b>Revision/Querries</b>			