

## Lesson Plan

**Name of the Faculty** : Manju Bala  
**Discipline** : Civil Engineering  
**Semester** : 4th  
**Subject** : Surveying-2  
**Lecture/Practical per week:** 3/6

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC	Practical day	TOPIC
1st	1	concept and purpose of contours, contour interval and horizontal equivalent,	1	Preparing a contour plan by radial line method by use a tangent Clinometer
	2	factor affecting coutours,		
	3	direct & indirect method of contouring, use of stadia measurement	2	Preparing a contour plan by radial line method by use a tangent Clinometer
2nd	1	Interpolation of contours, use of	1	Preparing a contour plan by method of squares.
	2	marking alignment of a road or railway		
	3	marking alignment of a canal on acontour map.	2	Preparing a contour plan by method of squares.
3rd	1	computation of earth work and	1	Preparing a contour plan of a road/railway
	2	working and axes of theodolite with		
	3	temporary adjustment & concept of transiting theodolite,	2	Preparing a contour plan of a road/railway track/canal by taking cross section.
4th	1	swinging, left, right and changing face, measurement of horizontal & vertical angles	1	study of a transit vernier theodolite ; temporary adjustment of theodolite.
	2	prolonging of a line, measurement of a bearing of a line		
	3	traversing by included and deflection angle method, travesing by stadia measurement,	2	study of a transit vernier theodolite ; temporary adjustment of theodolite.
5th	1	Sessional test-1 and Revision and discussion upto first sessional syllabus		
	2			
	3			
6th	1	theodolite triangulation, plotting a traverse, concept of coordinate.	1	reading the vernier and working out the least count, measurement of horizontal angle by repetition and reiteration method
	2	Omitted measurement, assignment		
	3	error in theodolite survey & precaution taken to minimize them,	2	reading the vernier and working out the least count, measurement of horizontal angle by repetition and reiteration method

7th	1	limits of precision in theodolite traversing.	1	measurement of vertical angle and use of tachnometer
	2	Height of object:accessible and nin accessible bases		
	3	Test	2	measurement of vertical angle and use of
8th	1	Tachometry, instrument used and method of techometry	1	measurement of magnetic bearing of a line.
	2	stadia system in techometry and its principle		
	3	examples of stadia tachometry and numerical problems	2	measurement of magnetic bearing of a line.
9th	1	Need, definition and element of a	1	running a closed traverse with a theodolite and its plotting.
	2	degree,radius,tangent length,apex piont,tangent point,length of curve		
	3	long chord,apexdistance,mid ordinate.	2	running a closed traverse with a theodolite and its plotting.
10th	1	Sessional test-2 and Revision and discussion upto second sessional syllabus		
	2			
	3			
11th	1	setting out of simple circular curve	1	Height of objects with and without accessible bases.
	2	a)-by linear measurement only		
	3	b)-by tangential angle using a theodolite	2	Height of objects with and without accessible bases.
12th	1	Need, definition and requirement of transition curve	1	Setting out of a simple circuiar curve with given data by following method:- a) Offsets from the chords produced b) by theodolite method.
	2	Length of transition curve for roads-by cubic parabola		
	3	calculation of offsets for a transition curve	2	Setting out of a simple circuiar curve with given data by following method:- a) Offsets from the chords produced b) by theodolite method.
13th	1	setting out of a transition curve by tangential offsets only.	1	Demonstration and use of minor instrument which are in syllabus.
	2	Setting out vertical curve. Introduction of EDM		
	3	Planimeter, Total station, remote sensing and GPS	2	Demonstration and use of minor instrument which are in syllabus.
14th	1	Introduction and uses of Ceylon ghat tracer	1	demonstration of digital instruments and total station.use of planimeter for computing areas.
	2	clinometer, pantagraph, abney level		
	3	use of planimeter for computing areas	2	demonstration of digital instruments and total station.use of planimeter for computing areas.
15th	1	Sessional test-3 and Revision and discussion upto third sessional syllabus.		
	2			
	3			