

NAME OF FACULTY :- MR. ABHILASH MUKHERJEE
 DICIPLINE :- CIVIL ENGG.
 SEMESTER :- 4TH
 SUBJECT :- SURVEYING-II
 LESSON PLAN DURATION :- FROM JAN, 2018 to APRIL, 2018
 WORK LOAD PER WEEK :- 2 Lecture/week

THEORY		
Week	Lecture Day	Topic
		Assignment/Test
1st	1	Concept of contours, purpose of contouring, contour interval and horizontal equivalent
	2	factors effecting contour interval, characteristics of contours, methods of contouring: Direct and indirect
2nd	3	use of stadia measurements in contour survey, interpolation of contours; use of contour map
	4	Drawing cross section from a contour map; marking alignment of a road, railway
3rd	5	canal on a contour map, computation of earth work and reservoir capacity from a contour map
	6	Working of a transit vernier theodolite, axes of a theodolite and their relation;
4th	7	temporary adjustments of a transit theodolite; concept of transiting
	8	swinging, face left, face right and changing face;
5th	9	measurement of horizontal and vertical angles. Prolonging a line , measurement of bearing of a line
	10	traversing by included angles and deflection angle method; traversing by stadia measurement
6th	11	theodolite triangulation, plotting a traverse; concept of coordinate and solution of omitted measurements
	12	errors in theodolite survey and precautions taken to minimize them
7th	13	limits of precision in theodolite traversing. Height of objects – accessible and non-accessible bases
	14	Tachometry, Instruments to be used in tachometry
8th	15	methods of tachometry
	16	stadia system of tachometry, general principles of stadia tachometry
9th	17	examples of stadia tachometry and Numerical problems.
	18	Numerical problems.
10th	19	Need and definition of a simple circular curve; Elements of simple circular curve - Degree of the curve, radius of the curve
	20	tangent length, point of intersection (Apex point)
11th	21	tangent point, length of curve, long chord deflection angle, Apex distance
	22	long chord deflection angle, Apex distance and Mid-ordinate
12th	23	Setting out of simple circular curve by linear measurements only
	24	. Setting out of simple circular curve by tangential angles using a theodolite
13th	25	Need (centrifugal force and super elevation) and definition of transition curve
	26	requirements of transition curve; length of transition curve for roads; by cubic parabola
14th	27	calculation of offsets for a transition curve; setting out of a transition curve by tangential offsets only
	28	Vertical curve,Setting out of a vertical curve
15th	29	Introduction to the use of Modern Surveying equipment and techniques such as EDM or Distomat
	30	Planimeter (Digital),Total station
16th	31	Introduction to remote sensing and GPS
	32	Auto level,Digital theodolite