

Ch. Ranbir Singh State Institute Of Engineering & Technology, Jhajjar (Hr.)

Name of Faculty:-		SUVIDHA
Discipline:-		CIVIL ENGINEERING
Semester:-		B-Tech (7th)
Subject:		Ground Water Engg.
Lesson Plan duration:- August 2020 to December 2020		
Week	Theory	
	Lecture Day	Topic
1	1	Introduction, Properties of Aquifers
	2	Formation constants
	3	Compressibility of aquifers
2	4	Equation of motion for steady
	5	Unsteady ground water flow in isotropic homogeneous aquifers
	6	Unsteady ground water flow in isotropic homogeneous aquifers
3	7	Dupit`s assumptions
	8	Unconfined flow with a recharge, tile drain problem.
	9	Ground water exploration and methods of investigations
	10	Problems
	11	Effect of boundaries, interference of water
4	12	Leaky aquifers
	13	Thiem`s equilibrium formula for unconfined and confined aquifers
	14	Determination of hydraulic properties of aquifers
	15	Determination of hydraulic properties of aquifers
5	16	Partial penetration of an aquifer by a well, spherical flow in a well.
	17	Non equilibrium formula for aquifer (unsteady radial flows).
	18	Non equilibrium formula for aquifer.
	19	Problems
6	20	Tube wells, optimum capacity, silting of tube well
	21	Design of tube wells in different aquifers
	22	Tube well types, parts, bore hole
	23	Strains, its types
7	24	Well pipe, casing pipe, blind pipe
	25	Construction and working of tube wells
	26	Site selection, drilling operation
8	27	Cable tool method, hydraulic method

	28	Rivers Rotary Method and drilling fluids
	29	Well screen assembly installation, verticality and alignment of tube wells
	30	Gravel packing, development of tube wells
9	31	Sickness, in construction and corrosion and failure of tube wells
	32	Pumping equipment and hydraulic testing of pumps
	33	Numericals & Problems
10	34	Artificial recharge of ground water
	35	considerations and methods
	36	Methods
	37	Recharge techniques induced infiltration
11	38	Recharge techniques induced infiltration
	39	Water spreading, flooding
	40	Basin, Ditching, Modification of natural channels
12	41	Irrigation ,recharge pits
	42	Shaft and recharge wells
	43	Numericals
13	44	REVISION
	45	REVISION