

NAME OF FACULTY :- MR. SARVJEET SINGH
 DICIPLINE :- CIVIL ENGG.
 SEMESTER :- 4TH
 SUBJECT :- WSWWE
 LESSON PLAN DURATION :- FROM JAN, 2018 to APRIL, 2018
 WORK LOAD PER WEEK :- 5 Lecture/week

Week	Lecture Day	THEORY	
		Topic	Assignment/Test
1st	1	Necessity and brief description of water supply system	
	2	Sources of water – surface/sub-surface sources	
	3	Water requirement	
	4	Rate of demand and variation in rate of demand	
	5	Per capita consumption for domestic	
2nd	6	industrial, public and fire fighting	
	7	uses as per BIS standards	
	8	Population Forecasting	
	9	Meaning of pure water and methods of analysis of water	
3rd	10	Physical, Chemical and bacteriological tests and their significance	
	11	Standard of potable water as per Indian Standard, Maintenance of purity of water	
	12	Sedimentation - purpose, types of sedimentation tanks	
	13	Coagulation/flocculation - usual coagulation and their feeding	
	14	Filtration - significance, types of filters, their suitability	
4th	15	Necessity of disinfection of water, forms of chlorination	
	16	break point chlorine, residual chlorine, application of chlorine	
	17	Flow diagram of different treatment units	
	18	functions of Aeration fountain	
	19	functions of mixer , flocculator, classifier	
	20	functions of slow and rapid sand filters, chlorination chamber	
5th	21	Different types of pipes - cast iron, PVC	
	22	steel, asbestos cement, concrete and lead pipes	
	23	Their suitability and uses, types of joints in different types of pipes	
	24	Appurtenances: Sluice, air, reflux valves	
	25	relief valves, scour valves, bib cocks	
6th	26	stop cocks, fire hydrants	
	27	water meters their working and uses	
	28	Setting out alignment of pipes	
	29	Excavation for laying of pipes and precautions to be taken	
	30	Handling, lowering and jointing of pipes	
7th	31	Testing of pipe lines , Back filling	
	32	Connections to water main	
	33	Water supply fittings (with sketches) and terminology related to plumbing	
	34	Purpose of sanitation, Necessity of systematic collection and disposal of waste	
8th	35	Definition of terms in sanitary engineering , Collection and conveyance of sewage	
	36	Conservancy and water carriage systems, their advantages and Disadvantages Surface drains : various types, suitability	
	37	Types of sewage: Domestic, industrial, storm water and its seasonal variation	
	38	Types of sewerage systems, materials for sewers, their sizes and joints	
	39	Appurtenance: Location, function and construction features	
9th	40	Manholes, drop manholes, tank hole, catch basin, inverted siphon	
	41	flushing tanks grease and oil traps, storm regulators, ventilating shafts	
	42	Setting out/alignment of sewers	
	43	Excavations, checking the gradient with boning rods	
	44	preparation of bedding	
	45	handling and jointing testing and back filling of sewers/pipes	
10th	46	Construction of surface drains and different sections required	
	47	Properties of sewage and IS standards for analysis of sewage	
	48	Properties of sewage and IS standards for analysis of sewage	
	49	Physical, chemical and bacteriological parameters	
	50	General composition of sewage and disposal methods	
11th	51	Disposal by dilution, Self purification of stream	
	52	Disposal by land treatment	
	53	Nuisance due to disposal	
	54	Meaning and principle of primary and secondary treatment	
12th	55	activated sludge process their flow diagrams	
	56	Introduction and uses of screens, grit chambers	
	57	detritus tanks, skimming tanks, plainsedimentation tanks	
	58	primary clarifiers, secondary clarifiers, filters	
	59	control beds, intermittent sand filters	
	60	trickling filters, sludge treatment and disposal,	
13th	61	oxidation ponds (Visit to a sewage treatment plant)	
	62	Aims of building drainage and its requirements	
	63	Different sanitary fittings and installations	
	64	Traps	
	65	Revision	