BALASORE SCHOOL OF ENGINEERING, BALASORE

LESSION PLAN FOR 5TH SEMESTER

SESSION -2022/23

BRANCH:CIVIL ENGG.				SEMESTER:-5TH		
SUBJECT: WATER SUPPLY AND WASTE WATER ENGG.				THEORY-4		
NAME OF TEACHER:TANMAYEE BEHERA						
SL NO.	CH. NO	MONTH	DATE	TOPICS TO BE COVERED	NO. OF PERIOD AVAILABLE AS PER SYLLABOUS	NO OF PERIOD AVAILABLE AS PER PLAN
01	CH: 1	SEPT	15/9/22	1.1NECCESSITY of treated water supply. .1.2 Per capita demand, variation in demand and factors affecting demand	10	07
02			16/9/22	1.3Methods of forecasting population, Numerical problems using different methods		
03			20/9/22	PROBLEM		
04			21/9/22	PROBLEM		
05			22/9/22	1.4 Impurities in water-organic and inorganic . Harmful effect of impurities.		
06			23/9/22	1.5 ANALYSIS OF WATER: physical ,chemical, bacteriological		
07			24/9/22	1.6 Water quality standard for different uses		
08	CH: 2		27/9/22	2.1 Surface sources – Lake, stream, river and impounded reservoir	8	8
09			28/9/22	2.2Underground sources – aquifer type & occurrence – Infiltration gallery, infiltration well, springs, well		
10			29/9/22	2.3 Yield from well- methods of determination, Numerical problems using yield formulae (deduction excluded)		
11			30/9/22	2.4 Intakes – types, description of river intake, reservoir intake, canal intake.		

12		OCT	1/10/22	Pumps for conveyance & distribution- types, selection, installation, most economic diameter of pumping main		
13			11/10/22	2.5 Pumps for conveyance & distribution- types, selection, installation.		
14			12/10/22	2.6 Pipe materials – necessity, suitability, merits & demerits of each type.		
15			13/10/22	2.7 Pipe joints – necessity, types of joints, suitability, of jointing methods Laying of pipes, method	12	11
16	CH: 3		14/10/22	3.1 Flow diagram of conventional water treatment system, 3.2.1Aeration ; Necessity,		
17			15/10/22	3.2.2 Plain Sedimentation : Necessity, working principles, Sedimentation tanks – types		
18			17/10/22	, essential features, operation & maintenance		
19			18/10/22	3.2.3 Sedimentation with coagulation: Necessity, principles of coagulation, types of coagulants		
20			19/10/22	Flash mixer, Flocculator,clarifier		
21			20/10/22	3.2.4 Filtration : Necessity, principles, types of filters-Slow Sand Filter		
22			21/10/22	rapid sand filter and pressure filter - essential features		
23			22/10/22	3.2.5Disinfection : Necessity, methods of disinfection, Chlorination – free and combined chlorine demand,		
24			25/10/22	available chlorine, residual chlorine, pre-chlorination, break point chlorination, super- chlorination,		
25			26/10/22	3.2.6 Softening of water – Necessity, Methods of softening – Lime soda process, Ion exchange method		
26	CH: 4		27/10/22	4.1General requirements, types of distribution system-gravity, direct and combined	08	5
27			28/10/22	4.2 Methods of supply – intermittent and continuous		
28			29/10/22	4.3 distribution system lay out: types comparison suitability		

29		NOV	1/11/22	4.4 Valve type ,features, uses, purpose, sluice valve, check valve, air valve, scour valve, fire hydrant, water meter	
30			2/11/22	continue	
31	CH: 5		3/11/22	5.1 Method of connection from water mains to building supply	02
32			4/11/22	5.2 General layout of plumbing arrangement for water supply in single storied and multi-storied building.	
33	CH: 6		5/11/22	Waste water engineering 6.1 Aims and objectives of sanitary engineering	05
34			8/11/22	6.2 Definition of terms related to sanitary engineering	
35			9/11/22	6.3Systems of collection of wastes– Conservancy and Water Carriage System – features, comparison, suitability	
36	CH: 7		10/11/22	7.1 QUANTITY OF SEWAGE : 7.1Quantity of sanitary sewage – domestic & industrial sewage,.	07
37			11/11/22	variation in sewage flow, numerical problem on computation quantity of sanitary sewage	
38			12/11/22	7.2Computation of size of sewer, application of Chazy's formula, Limiting velocities of flow : self-cleaning and scouring	
39			22/11/22	7.3 General importance, strength of sewage, characteristic of sewage physical, chemical ,biological	
40			23/11/22	7.4 Concept of sewage sampling, test for – solids ,ph, dissolved oxygen, bod ,cod	
41	CH. 8		24/11/22	SEWARAGE SYSTEM : 8.1Types of system-separate, combined, partially separate , features, comparison between the types, suitability	07
42			25/11/22	CONTINUE	
43			26/11/22	8.2Shapes of sewer – rectangular, circular, avoid-features, suitability	
44			29/11/22	8.3 laying of sewer-setting out sewer alignment	

45	CH: 9	DEC	1/12/22	SEWER APPURTENANCES ; 9.1Manholes and Lamp holes – types, features, location, function, 9.2Inlets, Grease & oil trap – features, location, function	07	05
46			2/12/22	9.3 Storm regulator, inverted siphon - features, location, function,		
47			3/12/22	**9.4 Disposal on land- sewage farming, sewage application and dosing ,sewage sickness-causes remedies**		
41			6/12/22	**9.5. Disposal by dilution-standards for disposal in different types of water bodies, self purification**		
48	CH: 10		7/12/22	10.1Principles of treatment, flow diagram of conventional treatment	08	04
			8/12/22	10.2Primary treatment – necessity, principles, essential features, functions		
49			9/12/22	**10.3** Secondary treatment – necessity, principles,		
50			10/12/22	essential features, functions, operation and maintenance of different units		
51			13/12/22	11.1Requirements of building drainage, layout of lavatory blocks in residential buildings, layout of building drainage	03	04
52	CH: 11		14/12/22	11.2Plumbing arrangement of single storied & multi storied building as per I.S. code practice		
53			15/12/22	11.3 sanitary fixtures – features, function, and maintenance and fixing of the fixtures – water closets, flushing cisterns, urinals, inspection chambers, traps, anti-syphonage		

BRIEF SUMMARY OF THE PLAN:

SL NO	MONTH	UNITS/CHAPTER TO BE COVERED	% OF COVERAGE
1	SEPT	CH.1,CH.2.1,2.2,2.3,2.4	20%
2	OCT	CH.2,CH.3,CH.4.1,4.2,4.3	30%
3	NOV	CH.4.4,CH.5,CH.6,CH.7,CH.8	35%
4	DEC	CH.9,CH.10,CH.11	15%

SIGNATURE OF THE FACULTY:

DATE: 13/9/2022

SIGNATURE OF THE PRINCIPAL

DATE: 13/9/22