



COLLEGE OF TECHNOLOGY AND ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
4 YEAR BE I SEMESTER SESSION 2015-16

1. Course Code : **CE 413**
2. Course Title : **PUBLIC HEALTH ENGINEERING- I**
3. Credit : 4(3+1)
4. Theory Lecture Outlines :

1.	<i>Sources of Water Supply:</i> Surface water
2.	ground water, springs
3.	wells & galleries
4.	<i>Quantity and Quality of Water:</i> Quantity of water per capita
5.	<i>Quantity and Quality of Water:</i> Quantity of water per capita
6.	variation in seasonal and hourly consumption
7.	variation in seasonal and hourly consumption
8.	Forecasting of population
9.	Standards of purity for public water supply (I.S. and WHO standards)
10.	<i>Raw Water :</i> Lakes and river intakes
11.	raw water pumping
12.	<i>Treatment of Water:</i> Aeration, screening
13.	simple sedimentation, Quiescent and continuous flow types of tanks
14.	simple sedimentation, Quiescent and continuous flow types of tanks
15.	Coagulation of water, principle of coagulation
16.	Coagulation of water, principle of coagulation
17.	coagulation followed by sedimentation, mixing basins.
18.	coagulation followed by sedimentation, mixing basins.
19.	<i>Filtration:</i> Slow sand filters
20.	rapid sand filters, comparison of two filters
21.	rapid sand filters, comparison of two filters
22.	<i>Disinfection:</i> Treatment with excess lime, ozone
23.	<i>Disinfection:</i> Treatment with excess lime, ozone
24.	ultraviolet rays, boiling

25.	chlorine and compound of chlorine for disinfection
26.	<i>Water Softening: Zeolite process, its limitation & advantages</i>
27.	<i>Water Softening: Zeolite process, its limitation & advantages</i>
28.	<i>Pipes for Water Supply: Different types of pipes used in water supplies</i>
29.	<i>Pipes for Water Supply: Different types of pipes used in water supplies</i>
30.	<i>Joints in Pipes: Bell & spigot joint, cement joint, mechanical joint, flanged joint</i>
31.	<i>Joints in Pipes: Bell & spigot joint, cement joint, mechanical joint, flanged joint</i>
32.	<i>Valves: Air valve, reflux valve</i>
33.	safety valve, sluice valve
34.	<i>System of Supply: Constant & intermittent supply of water & its disadvantage</i>
35.	<i>System of Supply: Constant & intermittent supply of water & its disadvantage</i>
36.	Layout of distribution system. Pressure in pipe
37.	Layout of distribution system. Pressure in pipe
38.	Layout of distribution system. Pressure in pipe
39.	water hammer in distribution system
40.	water hammer in distribution system
41.	water hammer in distribution system
42.	Numericals
43.	Numericals
44.	Revision
45.	Revision

Suggested Books & References

1. Hussain, S.K., 'Text book of water supply & sanitary engineering ', Oxford & IBH Publishing co. pvt. Ltd., New Delhi.
2. Rangewala, S.C., 'Fundamentals of water supply & sanitary engineering', Charotar Publisher House, Anand.
3. Punamia, B.C., 'Water supply & sanitary engineering'. Laxmi publishers. Jodhpur
4. Garg, S.K., 'Water supply & sanitary engineering', Khanna Publishers. New Delhi.

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