

ASSIGNMENTS

UNIT1

- ❖ What are the causes of temporary hardness?
- ❖ What is meant by toxic compound? Give an example of any two.
- ❖ Define COD and BOD.
- ❖ What is Non-carbonate hardness?
- ❖ Calculate one day 37°C BOD of sewage sample whose 5 days BOD is 100mg/l.
- ❖ The BOD of a sewage incubated for one day at 30°C has been found to be 110mg/l. What will be the 5-day 20°C BOD? Assume $K=0.12$ (base 10) at 20°C.
- ❖ The BOD₅ of a waste has been measured as 500 mg/l. If the rate constant $K=0.26$ / day (base e), what is the ultimate BOD of the waste? What proportion of BOD_u would remain unoxidised after 20 days?

UNIT2

- ❖ Explain the importance of determining solids dissolved in water. How do you determine the amount of solids dissolved in waste water.
- ❖ Explain the importance of determination of solids in sewage. How do you determine the suspended solids in a given sample of waste water?
- ❖ Discuss various classifications of cement concrete pipe as per **IS-458 2003**. Also give suitability of each class of pipes.
- ❖ Elaborate the various water supply systems with reference to Indian context.

UNIT 4

- ❖ Discuss in detail the ways to remove hardness of waste water .
- ❖ What do you understand by per capita demand? How is per capita demand for a community estimated?
- ❖ The population of 5 decades from 1930 to 1970 are given. Find out the population of the year 2009, 2019, 2022 by using arithmetic mean method.

year	1930	1940	1950	1960	1970
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population	25000	28000	34000	42000	47000
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- ❖ What are gravity and pressure conduits? Why pressure conduits are most commonly used for conveying water from distant sources to the town for supply?

UNIT 4

- ❖ Write about the functions of sedimentation tank. (2015-16)
- ❖ Define flowing through period and detention period in a sedimentation basin. (2015-16)
- ❖ What is meant by disinfection in treating public water supply?
- ❖ Describe a method of application of any one of the coagulants.
- ❖ What is the purpose of sedimentation tank? (2013-14)
- ❖ Write a short note on the following: (2013-14)
 - a. Pressure filter
 - b. Backwashing in filters
 - c. **UNIT 5**
- ❖ Explain briefly the following processes: (2013-14)
 - a. Break point chlorination
 - b. superchlorination
- ❖ what is meant by disinfection in treating public water supply? What is its importance? What are the chemicals which are used as disinfectant. (2013-14).
- ❖ Define process of coagulation and flocculation. What is temporal mean gradient?
- ❖ What are major methods of treatment of disinfection and explain chloramines.
- ❖ Write all the process of treatment of water and explain any two of them.
- ❖ Describe rapid sand filter in detail.