

Total no. of Pages-02

Roll No.....

**FOURTH SEMESTER**

**B.Tech.(Civil Engg.)**

**MID SEMESTER EXAMINATION**

**Mar 2019**

**EN-252 ENVIRONMENTAL ENGINEERING**

**Time : 1 ½ Hours**

**Max. Marks : 30**

*Note: Attempt all. All questions carry equal marks. Draw neat labelled diagrams wherever necessary. Assume suitable missing data if any.*

- Q. 1 What are the various purposes for which provision should be made in the average daily per capita demand of water in a water supply scheme? Give the approximate breakdown for each of these purposes if the total average daily demand is 270 litres. [5]
- Q. 2 Mention and discuss the factors that influence per capita water demand. [5]
- Q.3 In a town, it has been decided to provide 200 litres per capita per day of water day. Estimate the domestic water requirements of this town in the year AD 2000 by projecting the population of the town by incremental increase method: [5]

Year	Population
1940	23798624
1950	46978325
1960	54786437
1970	63467823
1980	69077421

- Q.4 What are the different materials, which are commonly used for water supply pipes? Discuss their comparative merits and demerits. [5]
- Q.5 Briefly and critically discuss the use of cast iron, steel and R.C.C. as materials for water supply pipes. How are the first two types of pipes get corroded? Explain this corrosion phenomenon and also suggest remedial measures. [5]

**P.T.O.**

- 205 -

Q.6 For water supply of a town, water is pumped from a river 3 km away into a reservoir. The maximum difference of levels of water in river and the reservoir is 20 m. The population of the town is 50,000 and per capita water demand is 120 litre per day. If the pumps are to operate for a total of 8 hours and the efficiency of pumps is 80%, determine the horsepower of the pumps. Assume friction factor as 0.03, the velocity of flow as 2 m/s, and maximum daily demand as 1.5 times the average daily demand. [5]

**END**